LightAPI InterFace

User Guide

Catalog

Statement

This document is the first draft and is for reference only. Contents of this document are subject to modification before official release. The products of our company may only support part of the interface in this document. Interface may changes caused by version update, no further notice. Our company should not assume any responsibility for any loss incurred.

Introductions

The LightAPI is RESTful, it transmits data through the HTTP short connection.
Important Notice!
The API uses digest authentication.

Supported HTTP Method

Method	**GET**	**PUT**	**POST**	**DELETE**
Usage	List members of resources.	Update resources. The request message must contain part or all members in resources.	Create resources. The Request message must contain one of the members in resources.	Delete one or all members of resources which support POST method.

URL Rule

/**LAPI**/**V1.0**[/**Channels**/*<ID>*]/*<service-name>*/*<resource-name>*[/<child-*resource-name>*][/*<ID>*]][?*<key>*=*<value>*]

[ ]: means this part is an optional field.

<>: means this part is a parameter, it can be *string* or *unsigned long.*

Channels: means the video input channel resources of device.

<*ID*>: means the ID of video input channels, the *ID* is an unsigned long number.

<*service-name*>: we divide the services into a number of types, like “System” “Media” “Network” and so on.

<resource-name>/<child-resource-name>: *include physical resources and virtual resources.*

<*key*>=<*value*>: which follows the rule of HTTP URL parameter.

For example:

/LAPI/V1.0[/Channels/<ID>]/Network/Interfaces[/<ID>]

URL can be like: /LAPI/V1.0/Channels/1/Network/Interfaces/1

Or just like: /LAPI/V1.0/Network/Interfaces

The format of common request is like

```
PUT /LAPI/V1.0/System/Time/NTP HTTP/1.1
{
    "Enabled":1,
    "AddressType":0,
    "Address":"24.56.178.140",
    "Port":123,
    "SynchronizeInterval":60
}
```

When method is PUT/POST, HTTP Body usually needs to include JSON Data.

Request must be sent to the HTTP/HTTPS port of the device.

The format of common response is like

```
HTTP/1.1 200 Ok

{
  "Response":
  {
    "ResponseURL": "URL",
    "ResponseCode": 0,
    "SubResponseCode": 101,
    "ResponseString": "Succeed",
    "StatusCode": 0,
    "Data": "null" or {...}
  }
}
```

"ResponseURL": on behalf of the URL carried by HTTP request message. When the request method is GET/PUT/DELETE, *URL* is the same as the URI in request. For POST request, it's the *URL* of newly created object. Client can use it to get the new object directly.

"ResponseCode": on behalf of the processing System result. 0 means succeed.

"ResponseString": on behalf of the interpretation to the processing System result.

"Data": the info or data of the resource which is requested (GET). It's JSON in most cases. With the same URL, PUT request data format is the same with the Data in GET response. The Data for each API are listed in Data item in tables below. If server work failed, "Data" contains "null". If HTTP method is PUT/POST, Response "Data" contains "null".

JSON

For more information about JSON, please visit: *www.json.org*. About string value of JSON, contain any Unicode character except" or \ or *control character*.

Interface List

System

Json Block

DeviceInfo

DeviceInfo Json Block	{
	"ID":,
	"DeviceName":,
	"DeviceType":,
	"DeviceCode":,
	"DeviceModel":,
	"SerialNumber":,
	"FirmwareVersion":,
	"HardwareID":,
	"UbootVersion":
	}

Param	Requirement	Type	Description	Example
ID	M	unsigned long	Video input channel ID	1
DeviceName	M	string	Device name	“NVR-B200-E4”
DeviceType	C	unsigned long	0：IPC 1：NVR 2：DVR 3：VMS NVR surpported。	0
DeviceCode	M	unsigned long	Device ID	12
DeviceModel	M	string	DeviceModel, length: 1~63	“NVR-B200-E4”
SerialNumber	M	string	Device serial number, length: 0-25	"21023 5C1MPF158000503"
FirmwareVersion	M	string	Firmware version, program version, length: 0-255	"R2318P05"
HardwareID	M	string	Hardware ID,	“A”

			length: 0-255	
UbootVersion	M	string	UBOOT version, length: 0-255	“V1.4”

TimeCfgInfo

TimeCfgInfo Json Block	{
	 "TimeZone": ,
	 "DeviceTime": ,
	 "DateFormat": ,
	 "HourFormat":
	 }

Param	Requirement	Type	Description	Example
TimeZone	M	string	String of Time zone, with range of [1,255]： "GMT-12:00" "GMT-11:00" "GMT-10:00" "GMT-09:00" "GMT-08:00" "GMT-07:00" "GMT-06:00" "GMT-05:00" "GMT-04:30" "GMT-04:00" "GMT-03:30" "GMT-03:00" "GMT-02:00" "GMT-01:00" "GMT-00:00" "GMT+01:00" "GMT+02:00" "GMT+03:00 "GMT+03:30" "GMT+04:00" "GMT+04:30" "GMT+05:00" "GMT+05:30" "GMT+05:45" "GMT+06:00" "GMT+06:30" "GMT+07:00"	"GMT+08:00"

			"GMT+08:00" "GMT+09:00" "GMT+09:30" "GMT+10:00" "GMT+11:00" "GMT+12:00" "GMT+13:00"	
DeviceTime	M	unsigned long	UTC, unit “second”	1477104949
DateFormat	C	unsigned long	Date formart： 0：YYYY-MM-DD 1：MM-DD-YYYY 2：DD-MM-YYYY NVR required	0
HourFormat	C	unsigned long	Hour mode： 0：12h 1：24H NVR required	1

DeviceInfoList

DeviceInfoList Json Block	{
	“Nums”:,
	“DeviceInfos”:[<DeviceInfo>]
	}

Param	Requirement	Type	Description	Example
Nums	M	unsigned long	Number of channel ID(s) of the connected device	1
DeviceInfos	C	array	Device info list. This node is optional.	
DeviceInfo	C	Json Block	Device name. This node is optional. See DeviceInfo Json Block for details.	

DetailInfo

DetailInfo Json Block	{
	"ID": ,
	"Name": ,
	"Status": ,
	"IsPoEPort":
	"PoEStatus": ,
	"StreamNums": ,
	"DeviceType": ,
	"AddressInfo": AddressInfo,
	"AccessProtocol ": ,
	"OffReason": ,
	"RemoteIndex": ,
	"Manufacturer": ,
	"DeviceModel": ,
	"GBID": ,
	"AddType":
	}

Param	Requirement	Type	Description	Example
ID	M	unsigned long	Channel ID	1
Name	M	string	Channel name, range of [0, 63]	"IP Camera 01"
Status	M	unsigned long	Channel status： 0: offline 1: online 2: idle	0
IsPoEPort	M	unsigned long	POE port or not： 0: no 1: yes NVR required。	1
PoEStatus	C	unsigned long	PoE status： 1: normal 2: lack of power 4: power over loaded 8: no power supply needed Unneccessary when IsPoEPort =0	1
StreamNums	C	unsigned long	Media stream limitation；	3

			Absent if Status=2	
DeviceType	C	unsigned long	Type of connected device: 0: Fixed camera 1: PTZ camera 2: Fisheye camera (fisheye lens plus dewarping function) 3:Super wide angle lens camera (with fisheye lens or wide angle lens but without dewarping function) Required for NVR. Absent if Status=2.	0
AddressInfo	C	Json Block	Device address info. Absent if Status=2.	See Addressinfo Json Block for detail
AccessProtocol	C	unsigned long	Access protocol. 1: ONVIF 2: Private 4: RTSP 100: custom1 ~ 131: custom32 Required for NVR. Absent if Status=2.	1
OffReason	C	unsigned long	Device offline reason: 0: Offline, connecting 1: Online 2: Offline, incorrect username or password 3: Offline, network disconnected 4: Offline, failed to set live video stream 5: Offline, failed to start live video stream 6: Offline, stream stopped 7: Offline, timeout 8: IPCOffline, GB IPC waiting for registration message 9: IPCOffline, Stream	1

			transmission protocol modified for GB IPC 10: PoEOffline, abnormal PoE power supply 11: Offline, insufficient bandwidth 12: Offline, access denied for weak password NVRRequired for NVR. Absent if Status=2	
RemoteIndex	C	unsigned long	Remote channel ID (of multi-channel device). NVRRequired for NVR. Absent if Status=2.	1
Manufacturer	C	string	Manufacturer, lenth of string [0, 31] NVR required Absent if Status=2	Company
DeviceModel	C	String	NVR Device model, lenth of string [0, 31], required for NVR. Absent if Status=2.	IPC
GBID	C	String	[0, 31]GB resource ID, lenth of string: [0, 31]. optional	
AddType	C	unsigned long	Add mode: 0: Manual 1: UPnP NVRRequired for NVR. Absent if Status=2.	0

AddressInfo

AddressInfo Json Block	{
	"AddressType": ,
	"Address": ,
	"Port": ,
	"AccessAddress" :
	}

Param	Requirement	Type	Description	Example

AddressType	M	unsigned long	IP address type: 0: IPv4 1: IPv6	0
Address	M	string	Device IP address, lenth of string: [0,128]. Required for NVR.	206.5.99.17
Port	M	unsigned long	Device port. Required for NVR.	80
AccessAddress	M	string	Device access address, lenth of string: [0, 63]. NVRRequired	http://206.5.99.17

SyncModeInfo

SyncModeInfo Json Block	{
	"Mode":
	}

Param	Requirement	Type	Description	Example
Mode	M	unsigned long	Time synchronization mode. 0:Accept synchronization from all servers 1:Synchronize with PC's system time 2:Synchronize with photo server 3:NTPSynchronize with NTP server 4:OnvifSynchronize with management server (not Onvif) 5:OnvifSynchronize with management server (Onvif)	0

NTPServerInfo

NTPServerInfo Json Block	{ “Enabled”: , “AddressType”: ,

	"IPAddress": , "DomainName": , "Port": , "SynchronizeInterval": }

Param	Requirement	Type	Description	Example
Enabled	M	boolean	Whether NTP server is enabled: 0:No 1:Yes	0
AddressType	M	unsigned long	Address type. 0:IPv4 1:IPv6 (currently not supported) 2:Domain name (supported by NVR and VMS)	0
IPAddress	C	string	IP address of NTP server, length range: [0, 64]. Mandatory if AddressType=0.	0.0.0.0
DomainName	C	string	Domain name of NTP server, length range: [0, 64]. Mandatory if AddressType=2.	pool.ntp.org
Port	C	unsigned long	NTP port, range: [1-65535]. IPCNot supported	123
SynchronizeInterval	M	unsigned long	Update interval. Range for NVR and VMS: 5/10/15/30 1/2/3/6/12h11 5/10/15/30 minutes, 1/2/3/6/12h, 1 day, 1 week. Range for IPC: 30-3600s. All values must be converted into values in unit of second.	10

DSTCfgInfo

DSTCfgInfo Json Block	{ "Enabled": ,

	"BeginTime":
	{
	"Month": ,
	"WeekNum": ,
	"WeekDay": ,
	"Hour":
	},
	"EndTime":
	{
	"Month": ,
	"WeekNum": ,
	"WeekDay": ,
	"Hour":
	},
	"DSTBias":
	}

Param	Requirement	Type	Description	Example
Enabled	M	boolean	Whether DST is enabled. 0:No 1:Yes	1
BeginTime	M	Json Block	DST start time.	-
Month	M	unsigned long	Start month, complies with ISO8601. 1:Jan 2:Feb 3:Mar 4:Apr 5:May 6:Jun 7:Jul 8:Aug 9:Sep 10:Oct 11:Nov 12:Dec	2
WeekNum	M	unsigned long	Week of the start month: 1:1st week 2:2nd week 3:3rd week 4:4th week 5:Last week	1
WeekDay	M	unsigned	Day of week *X* of the start	6

		long	month, complies with ISO8601: 1:Monday 2:Tuesday 3:Wednesday 4:Thursday 5:Friday 6:Saturday 7:Sunday	
Hour	M	unsigned long	Start time, unit: hour (24H format), complies with ISO8601: 0:00:00 1:01:00 2:02:00 3:03:00 4:04:00 5:05:00 6:06:00 7:07:00 8:08:00 9:09:00 10:10:00 11:11:00 12:12:00 13:13:00 14:14:00 15:15:00 16:16:00 17:17:00 18:18:00 19:19:00 20:20:00 21:21:00 22:22:00 23:23:00	0
EndTime	M	Json Block	DST end time.	-
DSTBias	M	unsigned long	30, 60, 90, 120 DST bias, unit: min, values allowed: 30, 60, 90, 120.	60

QueryInfo

QueryInfo Json Block	{
	" QryType": ,
	" QryCondition": ,
	" QryData":
	}

Param	Requirement	Type	Description	Example
QryType	M	unsigned long	Query condition: 0: Username 1: Organization name 2: Device name 3: Channel name 4: UTC time, unit: sec 5: Service type (main type) 6: Operation type (sub type) 7: Operation object 8: Alarm type 9: Alarm source name 10: Alarm level 11: Whether alarm is acknowledged 12: User who acknowledged alarm 13: Time when alarm is acknowledged 14: IDAlarm device ID 15: IDAlarm channel ID 16: Alarm sub type 17: Server For NVR, only 4, 5, and 6 are supported. For VMS: 0, 4, 5, 6 and 7 are supported for operation logs; 4, 8, 9, 10, 11, 12, 13, 14, 15, 16 and 17 are supported for alarm logs.	4
QryCondition	M	unsigned long	Logic type of query condition: 0: Equal to 1: Greater than 2: Less than 3: Greater than or equal to 4: Less than or equal to 5: Not equal to	0

			6: Fuzzy search 7: ININ set 8: Ascending order 9: Descending order NVR For NVR, only 0, 3 and 4 are supported. VMS For VMS, all values are supported.	
QryData	C	string	Rvalue for query condition. Alarm type is expressed as character string; a query allows up to 16 alarm types separated with comma(,); empty if QryCondition=6 or 7. For NVR, only one type each time is allowed.	" DiskOffline"

Log

Log Json Block	{
	"Time": ,
	"MainType": ,
	"SubType": ,
	"ID" : ,
	"LoginName": ,
	"IP": ,
	" DetailInfo": ,
	"OperObject" ,
	"Result":
	}

Param	Requirement	Type	Description	Example
Time	M	unsigned long	Log time in UTC, unit: sec.	1476088399
MainType	M	string	Main log type, expressed as enumerations. See **Alarm&Operate Log Type**.	"alarm"
SubType	M	string	Sub log type, expressed as enumerations. See	"motionDetectionStart"

			Alarm&Operate Log Type	
ID	C	unsigned long	Required if channel ID is involved in logs. 0 means device; other values (starts from 1) represent channel IDs. Represents alarm input/output ID if alarm input/output configuration or alarm is involved. NVR*100+0 For NVR: channel ID*100+alarm input ID. For example, channel ID is 0 for the device itself, and 101 means ID of the first alarm input/output of the first channel. For VMS, it is the alarm input ID on VMS.	1
LoginName	M	string	User, length range: [0, 64].	Admin
IP	M	string	User IP, length range: [0, 64].	206.5.3.13
DetailInfo	C	string	Detailed info, currently only shows PoE port status, length range: [0, 64]. Required for NVR.	
OperObject	C	string	Operation object, length range: [0, 64]. Required for VMS.	bsdkabik
Result	C	unsigned long	Operation result. Required for VMS.	1234

AlarmLog

AlarmLog Json Block	{ “AlarmID”: , “AlarmType”:, “AlarmSubType”:, “AlarmLevel”:, “ServerID”:, “DevID”:,

	“ChlID”:, “AlarmSrc”:, “AlarmTime”:, “AlarmChecked”:, “AlarmCheckUser”:, “AlarmCheckTime”:, “AlarmCheckDesc”: },

Param	Requirement	Type	Description	Example
AlarmID	M	unsigned long	IDAlarm log ID.	
AlarmType	M	string	Alarm type, expressed as enumerations. See **Alarm&Operate Log Type**	"alarm"
AlarmSubType	O	string	Alarm sub type, expressed as enumerations. **Alarm&Operate Log Type**	"motionDetectionStart"
AlarmLevel	M	unsigned long	Alarm level: 0:Critical 1:Major 2:Minor 3:Warning 4:Message	0
ServerID	M	unsigned long	Server ID	3
DevID	M	unsigned long	Device ID	1
ChlID	M	unsigned long	Channel ID	831
AlarmSrc	M	string	Alarm source info, length range: [1, 128].	“Camera1”
AlarmTime	M	unsigned long	Alarm time in UTC, unit: sec.	
AlarmChecked	M	boolean	Whether alarm is acknowledged: 0 :No 1: Yes	1
AlarmCheckUser	M	string	User who acknowledged alarm, length range: [0, 64].	”admin”

AlarmCheckTime	M	unsigned long	UTC time when alarm is acknowledged, unit: sec.	1476088399
AlarmCheckDesc	M	string	Description. Length range: [0, 516].	

Alarm&Operate Log Type

Alarm&Operate Log Type.xlsx

AlarmInfo

AlarmInfo
Json Block
	{
	"AlarmType": ,
	"TimeStamp": ,
	"AlarmSeq": ,
	"AlarmSrcID": ,
	"AlarmSrcType":,
	"AlarmSrcName":
	}

Param	Requirement	Type	Description	Example
AlarmType	M	string	Alarm type, see **Alarm&Operate Log Type**	"MotionAlarmOn"
TimeStamp	M	unsigned long	Alarm time.	1489040894
AlarmSeq	C	unsigned long	Alarm sequence number. Used by VMS and IPC.	327
AlarmSrcID	C	unsigned long	Resource ID. Used by VMS. NVR requirements, 1.when AlarmSrcType is within 0-7, AlarmSrcID represents the index of storage disk; 2. when AlarmSrcType is 8, AlarmSrcID represents the channel ID; 3. when AlarmSrcType is	860

			within 9, AlarmSrcID represents the ID of alarm input channel; 4. when AlarmSrcType is within 10, AlarmSrcID is default 0, represents the system itself.	
AlarmSrcType	C	unsigned long	Type of alarm source： 0: local hard disk; 1:HDD of expansion storage tank 1; 2:HDD ofexpansion storage tank 2; 3:HDD of storage array ; 4: HDD of NAS; 5: HDD of SAN; 6: HDD of eSATA; 7: SD card; 8:media channel; 9:alarm input channel; 10: system Only for NVR	2
AlarmSrcNam e	C	string	Alarm source name. String length range: [0, 128]. Used by VMS.	“206.9.252. 7_V_6”

ResInfo

ResInfo
Json Block
	{
	"Reference": ,
	"Action":,
	"Num":,
	"ResInfos": [{
	"ResType": ,
	"ResID": }, ……]
	}
	}

Param	Requirement	Type	Description	Example
Reference	M	string	Used by client to identify the URL of alarm event	"http://192.168. 0.13:80/LAPI/V1.

			messages. <SubscribersID>:IPportUsed to differentiate different subscription clients when a user logs in to multiple clients with the same IP and port.	0/System/ALarmEvent/CommonAlarm/<SubscribersID>"
Action	M	unsigned long	Sub type of resource change events: 0:Add 1:Delete 2:Modify 3:Online 4:Offline 5: EmapAlarm report on e-map	0
Num	M	unsigned long	Number of changed resources.	5
ResInfos	M	array	Resource data change info.	
ResType	M	unsigned long	Resource type: 0: User resource 1: Device resource 2: Channel resource 3: User permission resource 4: Sequence resource 5 Hot spot resouce 6: Hot zone resource 7: Alarm resource 8: Time template 9: System permission resource 10: Device permission resource 11: Organization resource 12: Alarm task resource 13: Master/slave resource 0xff:Invalid resource type.	2
ResID	M	unsigned long	Resource ID	1206

VMSCommon

VMSCommon Json Block	{
	"OrgID": ,
	"DevID": ,
	"DevName": ,
	"ChlIndex": ,
	"Permission":
	}

Param	Requirement	Type	Description	Example
OrgID	M	unsigned long	Organization ID.	1
DevID	M	unsigned long	IParent device ID.	1
DevName	M	string	Parent device name. Length range: [1, 256].	"123"
ChlIndex	M	unsigned long	Channel ID.	1
Permission	M	unsigned long	Channel permission.	214

UpgradeStatusInfo

UpgradeStatusInfo Json Block	{
	"ID":
	"Status" :,
	"Percent":
	}

Param	Requirement	Type	Description	Example
ID	M	unsigned long	Meaningless in /LAPI/V1.0/System/UpgradeStatus，0 as defalut； To be as the device aID in /LAPI/V1.0/System/UpgradeStatuss?DevID=[<ID>,<ID>,.....] To be as the input video channel ID in /LAPI/V1.0/Channels/System/UpgradeStatuses	1
Status	M	unsigned long	Upgrade status, see as belows:	2

			0：during Initialization 1：searching 2：downloading 3：transmission 4：upgrading 5：upgrade error 6：already the latest version 7：higher version 8：upgrade finished 9：fail to get the rate of upgrade progress 10：version not match 11：unable to run multiple upgrade progress 12：rate request timeout	
Percent	C	unsigned long	Rate of progress，range of [0,100]。 Required when Status is 2/3/4	50

UpgradeStatusInfoList

UpgradeStatusInfoList Json Block	{
	"Nums":,
	"UpgradeStatuses":[<UpgradeStatusInfo>,<UpgradeStatusInfo>,……]
	}

Param	Requirement	Type	Description	Example
Nums	M	unsigned long	numbers of IPC channel。	1
UpgradeStatuses	C	array	List of status info, required when Nums is greater than 0	-
UpgradeStatusInfo	C	Json Block	Status info, required when Numb is greater than 0	See UpgradeStatusInfo Json Block for details

Time

/LAPI/V1.0/System/Time

URL	/LAPI/V1.0/System/Time
Description	/Query device time info.

Method	GET
Input Data	None
Success Return Data	TimeCfgInfo
Note	NVR & IPC

URL	/LAPI/V1.0/System/Time
Description	set device time info.
Method	PUT
Input Data	TimeCfgInfo
Success Return Data	None
Note	IPC & NVR

/LAPI/V1.0/System/Time/SyncMode

URL	/LAPI/V1.0/System/Time/SyncMode
Description	Query time synchronization mode.
Method	GET
Input Data	None
Success Return Data	SyncModeInfo
Note	IPC

URL	/LAPI/V1.0/System/Time/SyncMode
Description	set time synchronization mode.
Method	PUT
Input Data	SyncModeInfo
Success Return Data	None
Note	IPC

/LAPI/V1.0/System/Time/NTP

URL	/LAPI/V1.0/System/Time/NTP
Description	NTPQuery NTP server info.
Method	GET
Input Data	None
Success Return Data	{ “Num”: ,

	"NTPServerInfos":[< NTPServerInfo>…] }
Note	IPC & NVR & VMS

URL	/LAPI/V1.0/System/Time/NTP
Description	set NTP server info.
Method	PUT

Input Data	{
	"Num": ,
	"NTPServerInfos":[<NTPServerInfo>…]
	}

Success Return Data	None
Note	IPC & NVR & VMS

Param	Requirement	Type	Description	Example
Num	M	unsigned long	NTPNumber of NTP servers. Max: 1 (currently only one NTP server is allowed.)	1
NTPServerInfos	M	array	NTP server list Currently only one NTP server is supported.	
NTPServerInfo	M	unsigned long	See NTPServerInfo_Json_Block for details	

/LAPI/V1.0/System/Time/DST

URL	/LAPI/V1.0/System/Time/DST
Description	Query DST info.
Method	GET
Input Data	None
Success Return Data	DSTCfgInfo
Note	IPC & NVR & VMS

URL	/LAPI/V1.0/System/Time/DST
Description	set DST info.
Method	PUT
Input Data	DSTCfgInfo
Success Return Data	None

Note	IPC & NVR & VMS

Reboot

/LAPI/V1.0/System/Reboot

URL	/LAPI/V1.0/System/Reboot
Description	Restart device.
Method	PUT
Input Data	None
Success Return Data	None
Note	IPC & NVR & VMS

Logs

/LAPI/V1.0/System/Logs

URL	/LAPI/V1.0/System/Logs
Description	Query logs.
Method	POST

Input Data	{
	"Num":
	"QueryInfos": [<QueryInfo>, <QueryInfo>,...],
	"Limit": ,
	"Offset":
	}

Success Return Data	{
	"Total": ,
	"Offset":
	“Num”:,
	"Logs":[<Log >, <Log >, ...]
	}

Note	NVR & VMS

Param	Requir	Type	Description	Example

	ement			
Num(Input Data)	M	unsigned long	Number of query conditions.	2
QueryInfos	C	array	Query condition info list. Optional if Num=0. Max alarm types: 16.	-
QueryInfo	M	Json Block	Query condition info.	See QueryInfo Json Block
Limit	M	unsigned long	Number of logs queried each time. Max: 200.	100
Offset	M	unsigned long	Start query from current sequence number. Sequence number starts from 0.	0
Num(Return Data)	M	unsigned long	Number of logs returned on current page.	100
Total	M	unsigned long	Total number of logs.	2850
Logs	C	array	Log info list. Optional if Num=0.	-
Log	M	Json Block	Log info ,see Log Json Block	-

/LAPI/V1.0/System/AlarmLogs

URL	/LAPI/V1.0/System/AlarmLogs
Description	Query VMS alarm logs.
Method	POST

Input Data	{
	"Num":
	"QueryInfos": [<QueryInfo>, <QueryInfo>,...],
	"Limit": ,
	"Offset":
	}

Success Return Data	{
	“Total”:,
	“Offset”:,
	“Num”:,
	“AlarmLogs”:[<AlarmLog>, <AlarmLog>...]
	}

Note	VMS

Param	Requir	Type	Description	Example

	ement			
Num(Input Data）	M	unsigned long	Number of query conditions.	2
QueryInfos	C	array	Query condition info list. Optional if Num=0. Max alarm types: 16.	-
QueryInfo	M	Json Block	Query condition info.	See QueryInfo Json Block for details
Limit	M	unsigned long	Number of logs queried each time. Max: 200.	100
Offset	M	unsigned long	Start query from current sequence number. Sequence number starts from 0.	0
Num(Return Data)	M	unsigned long	Number of alarm logs returned on current page.	100
Total	M	unsigned long	Total number of alarm logs.	2850
AlarmLogs	C	array	Alarm log info list. Optional if Num=0.	-
AlarmLog	M	Json Block	See AlarmLog Json Block for details	-

Event

/LAPI/V1.0/System/Event/Subscription

URL	/LAPI/V1.0/System/Event/Subscription
Description	Subscribe to alarms.
Method	POST

Input Data	{
	"AddressType": ,
	"IPAddress": ,
	"Port": ,
	"Duration":
	}

Success Return Data	{ “ID”:, "Reference":, "CurrentTime":, "TerminationTime":

	}
Note	IPC & NVR & VMS

Param	Requirment	Type	Description	Example
AddressType	M	unsigned long	IP address type: 0: IPv4 1: IPv6 2:Domain name 3: IPv4 and IPv6 Currently only IPv4 is supported.	0
IPAddress	C	string	IP address of subscriber. When event happened, The device will create a TCP connect to this IP and push an event message. Each message will take a new connect IPv4 address. Length range: [0,64].	
Port	M	unsigned long	Port of subscriber. When event happened, IPC will connect to this port and send an event message range: [1, 65535].	
Duration	M	unsigned long	The seconds from subscription start(POST succeeded) to finish. The subscription server will be terminated when timeout. IPC will never push message to the subscriber unless subscribe again. If termination time is not reached, subscriber can renew(PUT) subscription. Subscription duration, unit: s, range: [30, 3600].	
ID	M	unsigned long	ReferenceURLID The index of subscriber, same as the last segment of the URL for Reference (/0), used to identify	0

			subscription when subscription is refreshed or deleted.	
Reference	M	string	When subscribe successed, IPC will return this string to subscriber. Each event message pushed from IPC will contain the same string. Subscriber can identify IPC by this string	"192.168.0.13:80/Subscription/Subscribers/0"
CurrentTime	M	unsigned long	Subscription start time UTC time, seconds since 00:00 on Jan 1, 1970.	1477104900
TerminationTime	M	unsigned long	Subscription finish time UTC time, seconds since 00:00 on Jan 1, 1970.	1477104949

/LAPI/V1.0/System/Event/Subscription/<ID>

URL	/LAPI/V1.0/System/Event/Subscription/<ID>
Description	Renew subscription.
Method	PUT

Input Data	{
	"Duration":
	}

Success Return Data	{
	"Reference":,
	"CurrentTime":,
	"TerminationTime":
	}

Note	IPC & NVR & VMS

URL	/LAPI/V1.0/System/Event/Subscription/<ID>
Description	Cancel subscription.
Method	DELETE
Input Data	None
Success Return Data	None
Note	IPC & NVR & VMS

Param	Requirment	Type	Description	Example
ID	M	unsigned long	Alarm subscription ID, assigned by subscribed side. In the alarm subscription interface, a value is returned to the subscriber if subscription is successful. Required when refreshing or cancelling alarm subscription.	0
Duration	M	unsigned long	The seconds from subscription start(POST successed) to finish. The subscription server will be terminated when timeout. IPC will never push message to the subscriber unless subscribe again. If termination time is not reached, subscriber can renew(PUT) subscription. Subscription duration, unit: s, range: [30, 3600].	300
Reference	M	string	When subscribe successed, IPC will return this string to subscriber. Each event message pushed from IPC will contain the same string. Subscriber can identify IPC by this string	"192.168.0.13:80/Subscription/Subscribers/1"
CurrentTime	M	unsigned long	Subscription start time UTC time, seconds since 00:00 on Jan 1, 1970.	1477104900
TerminationTime	M	unsigned long	Subscription finish time UTC time, seconds since 00:00 on Jan 1, 1970.	1477104949

/LAPI/V1.0/System/Event/Notification/Alarm

URL	/LAPI/V1.0/System/Event/Notification/Alarm
Description	Push alarms.
Method	POST

Input Data	{
	"Reference":,
	"AlarmInfo": {
	"AlarmType":,
	"TimeStamp":,
	"AlarmSeq":,
	"AlarmSrcID": ,
	"AlarmSrcType":,
	"AlarmSrcName":
	}
	}

Success Return Data	None
Note	IPC & NVR & VMS

Param	Requirment	Type	Description	Example
Reference	M	string	When subscribe successed, IPC will return this string to subscriber. Each event message pushed from IPC will contain the same string. Subscriber can identify IPC by this string	"192.168.0.13:80/Subscription/Subscribers/1"
AlarmInfo	M	Json Block	Format of alarm push message.	See AlarmInfo Json Block for details.

/LAPI/V1.0/System/Event/Notification/ResChange

URL	/LAPI/V1.0/System/Event/Notification/ResChange
Description	Push resource change events.
Method	POST
Input Data	ResInfo
Success Return Data	None
Note	VMS

DeviceInfo

/LAPI/V1.0/System/DeviceInfo

URL	/LAPI/V1.0/System/DeviceInfo
Description	get device information.
Method	GET
Input Data	None
Success Return Data	DeviceInfo
Notes	返回值 DeviceInfo 中的 ID 为 0，暂时无任何意义。 the return value of ID from DeviceInfo is 0 and the API is temporarily meaningless IPC & NVR

/LAPI/V1.0/Channels/<ID>/System/DeviceInfo

URL	/LAPI/V1.0/Channels/<ID>/System/DeviceInfo
Description	It is used to get a particular VideoIn channel device information.
Method	GET
Input Data	None
Success Return Data	DeviceInfo
Notes	NVR

/LAPI/V1.0/Channels/System/DeviceInfos

URL	/LAPI/V1.0/Channels/System/DeviceInfos
Description	It is used to get all of VideoIn channels device information.
Method	GET
Input Data	None
Data	DeviceInfoList
Notes	NVR

ChannelInfos

/LAPI/V1.0/Channels/System/ChannelDetailInfos

URL	/LAPI/V1.0/Channels/System/ChannelDetailInfos
Description	Query detailed info about all video channels.
Method	GET
Input Data	None

Success Return Data	{
	"Nums": ,
	"DetailInfos": [<DetailInfo>, <DetailInfo>, <DetailInfo>, …]
	}

Note	NVR

Param	Ranger	Type	Description	Example
Nums	M	unsigned long	Total number of video channels of device.	3
DetailInfos	C	Array	Video channel info list. Optional if Nums=0.	-
DetailInfo	C	Json Block	Detailed video channel info.	See DetailInfo Json Block

Upgrade

/LAPI/V1.0/System/Upgrade

URL	/LAPI/V1.0/System/Upgrade
Description	Excute the upgrade
Method	PUT

Input Data	{
	"UpgradeType":
	}

Success Response Data	{
	"UpgradeTaskID":
	}

Note	Upload firmware through /LAPI/V1.0/System/UploadFirmware when doing local upgrade. Query for status through /LAPI/V1.0/System/UpgradeStatus IPC & NVR & VMS

Param	Requirement	Type	Description	Example
UpgradeType	M	unsigned long	Type of upgrade: 1：cloud upgrade； 2：USB upgrade； 3：local upgrade	3
UpgradeTaskID	C	string	Mission ID, for vertification, required when NVR using local upgrade.	“2b188bd214ae1e2b0d96d5b7636d3bd0@1504663113”

/LAPI/V1.0/System/UploadFirmware?UpgradeTaskID=<UpgradeTaskID>

URL	/LAPI/V1.0/System/UploadFirmware?UpgradeTaskID=<UpgradeTaskID>
Description	Upload upgrade firmware
Method	POST
Message body	Accept-Encoding: gzip, deflate Content-Length: 25665652 Content-Type: multipart/form-data; boundary=----------5851473516029 ----------5851473516029 Content-Disposition: form-data; name="UpgradeFile"; filename="Program.bin" Content-Type: application/octet-stream File content ----------5851473516029—
Note	Content-Dispostion row，Content-Type row and null string are also standard message body for http file transmission. Query for status through /LAPI/V1.0/System/UpgradeStatus IPC & NVR &VMS

Param	Requirement	Type	Description	Example
UpgradeTaskID	C	string	Mission ID for vertification, required when NVR using local upgrade. Returned through /LAPI/V1.0/System/Upgrade	“2b188bd214ae1e2b0d96d5b7636d3bd0@1504663113”

/LAPI/V1.0/System/UpgradeStatus

URL	/LAPI/V1.0/System/UpgradeStatus
Description	Query for upgrade status
Method	GET
Input Data	None
Success Return Data	UpgradeStatusInfo
Note	IPC & NVR

/LAPI/V1.0/Channels/System/Upgrade

URL	/LAPI/V1.0/Channels/System/Upgrade
Description	Upgrade the specific video channel device
Method	PUT

Input Data	{
	"Channels":[<ID>,<ID>,...],
	"UpgradeType":
	}

Success Response Data	{
	"UpgradeTaskID":
	}

Note	Upload firmware during Local upgrade through /LAPI/V1.0/Channels/System/UploadFirmware?UpgradeTaskID=<UpgradeTaskID> Query for upgrade status through /LAPI/V1.0/Channels/System/UpgradeStatuses NVR

Param	Requirement	Type	Description	Example
Channels	M	array	List of channel ID, only available when using local upgrade and required for specific channel.	
ID	M	unsigned long	Input channel ID	1
UpgradeType	M	unsigned long	Type of upgrade: 1：cloud upgrade； 2：USB upgrade； 3：local upgrade	1

UpgradeTaskID	C	string	Mission ID, for vertification, required when NVR using local upgrade.	“956087319”

/LAPI/V1.0/Channels/System/UploadFirmware?UpgradeTaskID=<UpgradeTaskID>

URL	/LAPI/V1.0/Channels/System/UploadFirmware?UpgradeTaskID=<UpgradeTaskID>
Description	Upload firmware for specific channel
Method	POST
Message body	Accept-Encoding: gzip, deflate Content-Length: 14231621 Content-Type: multipart/form-data; boundary=----------178201537128716 ----------178201537128716 Content-Disposition: form-data; name="UpgradeFile"; filename="IPC_D1201-B5022P20D1702_JPEG.zip" Content-Type: application/octet-stream File content ----------178201537128716—
Note	Content-Dispostion row，Content-Type row and null string are also standard message body for http file transmission. Query for upgrade status through /LAPI/V1.0/Channels/System/UpgradeStatus NVR

Param	Requirement	Type	Description	Example
UpgradeTaskID	C	string	Mission ID for vertification, required when NVR using local upgrade. Returned through /LAPI/V1.0/Channels/System/Upgrade	“956087319”

/LAPI/V1.0/Channels/System/UpgradeStatuses

URL	/LAPI/V1.0/Channels/System/UpgradeStatuses
Description	Query for the upgrade status of input channel
Method	GET
Input Data	None

Success Return Data	UpgradeStatusInfoList
Note	NVR

PTZ

Json Block

PTZCommandInfo

PTZCommandInfo
Json Block
	{
	"PTZCmd":,
	"Para1":,
	"Para2":,
	"Para3":
	}

Param	Requirement	Type	Description	Example
PTZCmd	M	unsigned long	PTZ operation command word: 0x0101: Stop decreasing iris 0x0102: Decrease iris 0x0103: Stop increasing iris 0x0104: Increase iris 0x0201: Stop focusing near 0x0202: Focus near 0x0203: Stop focusing far 0x0204: Focus far 0x0301: Stop zooming in 0x0302: Zoom in 0x0303: Stop zooming out 0x0304: Zoom out 0x0402: Turn up 0x0404: Turn down 0x0502: Turn right 0x0504: Turn left 0x0702: Turn upper left	1794（0x0702）

			0x0704: Turn lower left 0x0802: Turn upper right 0x0804: Turn lower right 0x0901: Stop 0x0A01: Wiper on 0x0A02: Wiper off 0x0B01: Light on 0x0B02: Light off 0x0C01: Heater on 0x0C02: Heater off 0x0D01: IR on 0x0D02: IR off	
Para1	C	unsigned long	PTZ command parameter 1, pan speed, range: [1,9]. Only for use by 0x4020x804, and pan speed is 0 when moving up or down. Optional if PTZCmd0x4020x804.	2
Para2	C	unsigned long	PTZ command parameter 2, tilt speed, range: [1,9]. Only for use when PTZCmd is 0x4020x804, and tilt speed is 0 when moving left or right. Optional if PTZCmd0x4020x804.	2
Para3	C	unsigned int	PTZ command parameter 3, not in use and fill in with 0.	0

PresetInfoList

PresetInfoList Json Block	{
	"Nums": ,
	"PresetInfos": [<PresetInfo>,<PresetInfo>,.....]
	}

Param	Requirement	Type	Description	Example
Nums	M	unsigned long	Number of preset(s). Up to 255 presets can be returned.	3
PresetInfos	C	array	Preset list. Optional if Nums=0.	
PresetInfo	C	Json Block	Preset info. See PresetInfo Json Block for	

			details. This node is optional if the value of Nums is 0.	

PresetInfo

PresetInfo Json Block	{
	"ID":,
	"Name":
	}

Param	Requirement	Type	Description	Example
ID	M	unsigned long	Preset ID, which is generated at the device side when a preset is created. The preset ID is numbered in sequence from 1 and the maximum is 255.	1
Name	M	string	Preset name. String length range: [1,64] (the value obtained by back end devices is the default value; configuration of preset name is currently not supported)	"Preset1"

PTZCapabilityInfo

PTZCapInfo Json Block	{
	"IsSupportPTZ": ,
	"IsSupportRecordPatrol":
	}

Param	Requirement	Type	Description	Example
IsSupportPTZ	M	boolean	Whether supports PTZ: 0: No 1: Yes	0
IsSupportRecordPatrol	M	boolean	Whether supports recorded patrol: 0: No 1: Yes	1

PTZZoomAreaInfo

PTZZoomAreaInfoList Json Block	{
	"CenterPointX":,
	"CenterPointY":,
	"LengthX":,
	"LengthY":,
	"Width": ,
	"Height":
	}

Param	Requirement	Type	Description	Example
CenterPointX	M	unsigned long	Horizontal coordinate of center point of zoom area, which does not exceed Width.	500
CenterPointY	M	unsigned long	HeightVertical coordinate of center point of zoom area, which does not exceed Height.	500
LengthX	M	unsigned long	Length of zoom area.	0
LengthY	M	unsigned long	Width of zoom area.	0
Width	M	unsigned long	Actual length of playing window.	1300
Height	M	unsigned long	Actual width of playing window.	1300

PatrolInfoList

PatrolInfoList Json Block	{
	"Num": ,
	"PatrolInfos": [<PatrolInfo>, ...]
	}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	Number of patrol routes configured.	4
PatrolInfos	C	array	Patrol route info.	

PatrolInfo

PatrolInfo Json	{

Block	"ID":, "Name": , "Num": , "Actions": [<Action>, ...] }

Param	Requirement	Type	Description	Example
ID	M	unsigned long	Patrol route ID, starts from 0. Set using the obtained route ID.	0
Name	C	string	Patrol route name. IPCOnly used by IPC and VMS.	
Num	M	unsigned long	Number of actions in PTZ operation.	2
Actions	M	array	See Action Json Block for details.	

Action

Action Json Block	{
	"ID":,
	"Type":,
	"Para1: ,
	"Para2: ,
	"Para3: ,
	"PresetID":,
	"Duration":
	}

Param	Requirement	Type	Description	Example
ID	C	unsigned long	Starts from 0, max: (Num- 1) in PatrolInfo. Supported by NVR and VMS.	0
Type	M	unsigned long	Action type: 0x0302: Zoom in 0x0304: Zoom out 0x0402: Turn up 0x0404: Turn down 0x0502: Turn right 0x0504: Turn left	0

			0x0602: Turn to preset 0x0702: Turn upper left 0x0704: 0x0802: Turn upper right 0x0804: Turn lower right 0x0901: Stop NVR and VMS only support 0x0602.	
Para1	C	unsigned long	PTZ command parameter 1, pan speed, range: [1,9], only for use by 0x4020x804, and pan speed is 0 when moving up or down. Optional if PTZCmd0x4020x804. Preset speed uses this field.	5
Para2	C	unsigned long	PTZ command parameter 2, tilt speed, range: [1,9], only for use by 0x402-0x804, and tilt speed is 0 when moving left or right. Mandatory if PTZCmd is 0x402 or 0x404. When PTZCmd is 0x702-0x804, Para1 will be used; Para2 is null.	5
Para3	C	unsigned long	Type0x03020x0304 Lens zoom ratio*100 Mandatory if Type＝0x0302 or 0x0304.	2
PresetID	C	unsigned long	Preset ID. Optional if Type0x0602.	1
Duration	C	unsigned long	Duration of action	10

			when Type0x0602. 0 means a lasting action, range: [0,1800000], unit: ms. As NVR and VMS only support precision to seconds, an integer number of seconds must be set for NVR and VMS and then converted into milliseconds (ms).	

RecordedPatrolInfoList

RecordedPatrolInfoList Json Block	{
	"Num": ,
	"RecordedPatrolInfos": [<RecordedPatrolInfo>]
	}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	Number of recorded patrol routes.	1
RecordedPatrolInfos	C	array	Info about recorded patrol route.	

RecordedPatrolInfo

RecordedPatrolInfo Json Block	{
	"ID": ,
	"Name":
	}

Param	Requirement	Type	Description	Example
ID	M	unsigned long	ID of recorded patrol route, set using the obtained ID.	1
Name	C	string	Name of recorded patrol route. Supported by VMS.	“PatrolInfo1”

PTZCtrl

/LAPI/V1.0/Channels/<ID>/PTZ/PTZCtrl

URL	/LAPI/V1.0/Channels/<ID>/PTZ/PTZCtrl
Description	It is used control PTZ of the specified channel.
Method	PUT
Input Data	PTZCommandInfo
Success Return Data	None
Note	For IPC，ID is fixed to 0 IPC & NVR & VMS

Presets

/LAPI/V1.0/Channels/<ID>/PTZ/Presets

URL	/LAPI/V1.0/Channels/<ID>/PTZ/Presets
Description	It is used to get preset list info of the specified video input channel.
Method	GET
Input Data	None
Success Return Data	PresetInfoList
Note	For IPC，ID is fixed to 0 IPC & NVR & VMS

URL	/LAPI/V1.0/Channels/<ID>/PTZ/Presets
Description	It is used to add a preset for the specified video input channel.
Method	POST
Input Data	PresetInfo
Success Return Data	None
Note	For IPC，ID is fixed to 0 IPC & VMS

/LAPI/V1.0/Channels/<ID>/PTZ/Presets/<ID>

URL	/LAPI/V1.0/Channels/<ID>/PTZ/Presets/<ID>

Description	It is used to modify the specified preset for the specified video input channel.
Method	PUT
Input Data	PresetInfo
Success Return Data	None
Note	For IPC，ID of channel is fixed to 0 IPC & NVR

URL	/LAPI/V1.0/Channels/<ID>/PTZ/Presets/<ID>
Description	It is used to delete a preset for the specified video input channel.
Method	DELETE
Input Data	None
Success Return Data	None
Note	For IPC，ID of channel is fixed to 0 IPC & NVR & VMS

/LAPI/V1.0/Channels/<ID>/PTZ/Presets/<ID>/Goto

URL	/LAPI/V1.0/Channels/<ID>/PTZ/Presets/<ID>/Goto
Description	It is used to steer the PTZ unit of the specified channel to the specified preset.
Method	PUT
Input Data	None
Success Return Data	None
Note	For IPC，ID of channel is fixed to 0 IPC & NVR & VMS

Capabilities

/LAPI/V1.0/Channels/<ID>/PTZ/Capabilities

URL	/LAPI/V1.0/Channels/<ID>/PTZ/Capabilities
Description	Query PTZ configuration capability.
Method	GET
Input Data	None
Success Return Data	PTZCapabilityInfo
Note	IPC & NVR

AreaZoom

/LAPI/V1.0/Channels/<ID>/PTZ/AreaZoomIn

URL	/LAPI/V1.0/Channels/<ID>/PTZ/AreaZoomIn
Description	Drag mouse to zoom in for specified channel.
Method	PUT
Input Data	PTZZoomAreaInfo
Success Return Data	None
Note	IPC & NVR & VMS

/LAPI/V1.0/Channels/<ID>/PTZ/AreaZoomOut

URL	/LAPI/V1.0/Channels/<ID>/PTZ/ AreaZoomOut
Description	Drag mouse to zoom out for specified channel.
Method	PUT
Input Data	PTZZoomAreaInfo
Success Return Data	None
Note	IPC & NVR & VMS

Patrols

/LAPI/V1.0/Channels/<ID>/PTZ/Patrols/<ID>/Start

URL	/LAPI/V1.0/Channels/<ID>/PTZ/Patrols/<ID>/Start
Description	Start patrol with specified route of specified channel.
Method	PUT
Input Data	None
Success Return Data	None
Note	ID here is the patrol ID IPC & NVR & VMS

/LAPI/V1.0/Channels/<ID>/PTZ/Patrols/<ID>/Stop

URL	/LAPI/V1.0/Channels/<ID>/PTZ/Patrols/<ID>/Stop
Description	Stop patrol with specified route of specified channel.
Method	PUT
Input Data	None
Success Return Data	None
Note	ID here is the patrol ID IPC & NVR & VMS

/LAPI/V1.0/Channels/<ID>/PTZ/Patrols/<ID>

URL	/LAPI/V1.0/Channels/<ID>/PTZ/Patrols/<ID>
Description	Get info about specified patrol route of specified channel.
Method	GET
Input Data	None
Success Return Data	PatrolInfo
Note	IPC & NVR & VMS。
Status	

URL	/LAPI/V1.0/Channels/<ID>/PTZ/Patrols/<ID>
Description	Modify info about specified patrol route of specified channel.
Method	PUT
Input Data	PatrolInfo
Success Return Data	None
Note	IPC & NVR & VMS

URL	/LAPI/V1.0/Channels/<ID>/PTZ/Patrols/<ID>
Description	Delete info about specified patrol route of specified channel.
Method	DELETE
Input Data	None
Success Return Data	None
Note	ID here is the patrol ID IPC & VMS

/LAPI/V1.0/Channels/<ID>/PTZ/Patrols

URL	/LAPI/V1.0/Channels/<ID>/PTZ/Patrols
Description	Get info about all preset patrol routes of specified channel.
Method	GET
Input Data	None
Success Return Data	PatrolInfoList
Note	IPC & NVR & VMS

URL	/LAPI/V1.0/Channels/<ID>/PTZ/Patrols
Description	Modify info about preset patrol routes of specified channel.
Method	PUT
Input Data	PatrolInfoList
Success Return Data	None
Note	NVR

URL	/LAPI/V1.0/Channels/<ID>/PTZ/Patrols
Description	Add info about preset patrol routes of specified channel.
Method	POST
Input Data	PatrolInfo
Success Return Data	None
Note	IPC & NVR

/LAPI/V1.0/Channels/<ID>/PTZ/RecordedPatrols/<ID>/Start

URL	/LAPI/V1.0/Channels/<ID>/PTZ/RecordedPatrols/<ID>/Start
Description	Start recorded patrol with specified route for specified channel.
Method	PUT
Input Data	None
Success Return Data	None
Note	ID here is the recorded patrol ID IPC & NVR & VMS

/LAPI/V1.0/Channels/<ID>/PTZ/RecordedPatrols/<ID>/Stop

URL	/LAPI/V1.0/Channels/<ID>/PTZ/RecordedPatrols/<ID>/Stop
Description	Stop recorded patrol with specified route for specified channel.
Method	PUT
Input Data	None
Success Return Data	None
Note	ID here is the recorded patrol ID IPC & NVR & VMS

/LAPI/V1.0/Channels/<ID>/PTZ/RecordedPatrols/<ID>/StartRecord

URL	/LAPI/V1.0/Channels/<ID>/PTZ/ RecordedPatrols /<ID>/StartRecord
Description	Start recording patrol route for specified channel.
Method	PUT
Input Data	None
Success Return Data	None
Note	ID here is the recorded patrol ID IPC & NVR & VMS

/LAPI/V1.0/Channels/<ID>/PTZ/RecordedPatrols/<ID>/StopRecord

URL	/LAPI/V1.0/Channels/<ID>/PTZ/RecordedPatrols/<ID>/StopRecord
Description	Stop recording patrol route for specified channel.
Method	PUT
Input Data	None
Success Return Data	None
Note	ID here is the recorded patrol ID IPC & NVR & VMS

/LAPI/V1.0/Channels/<ID>/PTZ/RecordedPatrols/<ID>

URL	/LAPI/V1.0/Channels/<ID>/PTZ/RecordedPatrols/<ID>
Description	Delete info about specified recorded patrol of specified channel.
Method	DELETE
Input Data	None
Success Return Data	None
Note	ID here is the recorded patrol ID IPC & VMS

/LAPI/V1.0/Channels/<ID>/PTZ/RecordedPatrols

URL	/LAPI/V1.0/Channels/<ID>/PTZ/RecordedPatrols
Description	Get info about recorded patrol route of specified channel.
Method	GET
Input Data	None
Success Return Data	RecordedPatrolInfoList
Note	IPC & NVR

Media

Json Block

RecordList

RecordList Json Block	{
	"Total": ,
	"Offset": ,
	“Nums”: ,
	“RecordInfos”: [<RecordInfo>, [<RecordInfo>, …]
	}

Param	Requirement	Type	Description	Example

Total	C	unsigned long	If query on the paged search, system will return the total number of recoding found IPC supported	100
Offset	C	unsigned long	本次查询从第几个开始查询。 Limit 和 Offset 参数用于分页查询机制，同时使用或者同时缺省。 缺省表示：将返回最多 100 条查询到的录像记录。 Shows the start number of this search. Limit and Offser should use or be null in the same time when they are used in the paged search. Null means to return maxinum 100 records. IPC supported	10
Nums	M	unsigned long	Number of recordings found.	4
RecordInfos	C	Array	Nums0Recording info list. Optional if Nums=0.	
RecordInfo	M	Json Block		Refer to RecordInfo Json Block

RecordInfo

RecordInfo	{
	 “FileName”:“Abc123”,
	 “RecordType”: 4,
	 “Begin”: ,
	 “End”:
	 }

Param	Ranger	Type	Description	Example
FileName	M	string	Recording file name, range: [0, 64].	Abc123
RecordType	M	unsigned long	Type of recording to query, handled by the order of digit (digits from left to right: 0-31). Each digit represents a recording type. The value will be converted into ULong data	Query motion detection recording:00000000 00000000000000000 0000100 = 4， Fill in with 4

			type after the corresponding digit is assigned a value. 0:Manual recording 1:(NVR)Common alarm (currently not supported by NVR) 2:Motion detection 3:Alarm input 4:Video loss 5:Audio detection 6:(NVR)Transaction info (currently not supported by NVR) 7:Scheduled recording 8:Face detection 9:Cross line detection 10:Intrusion detection	Query motion detection and face detection recording. 00000000000000000000000100000100 = 260 Fill in with 260.
Begin	M	unsigned long	Start time of recording file in UTC, unit: **sec**.	1454428800
End	M	unsigned long	End time of recording file in UTC, unit: **sec**.	1454435960

RecordChannelInfoList

RecordChannelInfoList Json Block	{
	"Num": ,
	"ChannelInfoList": [<ChanelInfo >, [<ChanelInfo >, …]
	}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	Input video channel number	3
ChannelInfoList	C	array	Input video channel number list, required when Num > 0	-
ChanelInfo	C	Json Block	Info of video channel, require when Num > 0	See ChanelInfo Json Block

ChanelInfo

ChanelInfo Json Block	{

	"ChannelID": , "StreamID": , "Begin": , "End": }

Param	Requirement	Type	Description	Example
ChannelID	M	unsigned long	ID of record video input channel under inquiry	1
StreamID	M	unsigned long	Record stream ID under inquiry, 0: main stream； 1: second stream； 2: third stream.	0
Begin	M	unsigned long	Start time of recording file in UTC, unit: **sec**.	1454428800
End	M	unsigned long	End time of recording file in UTC, unit: **sec**.	1454435960

RecordFileList

RecordFileList Json Block	{
	"Num": ,
	"RecordFileInfoList": [<RecordFileInfo >, [<RecordFileInfo >, ...]
	}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	Inquiried record file number	4
RecordFileInfos	C	array	Record file info list, required when Num is 0	-
RecordFileInfo	C	Json Block	Record file info, required when Num is 0	See RecordFileInfo Json Block

RecordFileInfo

RecordFileInfo Json Block	{ "ChannelID": , "StreamID": , "Begin": ,

	"End": , "FileSizeForRecord": }

Param	Requirement	Type	Description	Example
ChannelID	M	unsigned long	ID of video record channel under inquiry	1
StreamID	M	unsigned long	Record stream ID under inquiry, 0: main stream; 1: second stream; 2: third stream.	0
Begin	M	unsigned long	Start time of recording file in UTC, unit: **sec**.	1454428800
End	M	unsigned long	End time of recording file in UTC, unit: **sec**.	1454435960
FileSizeForRecord	M	unsigned long	Size fo recording file , unit: KB	1024

VideoCapabilityInfo

VideoCapabilityInfo Json Block	{
	"IsSupportCfg": ,
	"IsSupportSmoothLevel": ,
	"IsSupportImageFormat": ,
	"EncodeFormatNum": ,
	"EncodeFormatList": ,
	"MinIFrameInterval": ,
	"MaxIFrameInterval": ,
	"StreamCapabilityNum": ,
	"StreamCapabilityList":[<StreamCapability>, <StreamCapability> ...]
	"VideoModeNum": ,
	"VideoModeInfoList": [<VideoModeInfo>, <VideoModeInfo> ...]
	"GOPTypeNum":,
	"GOPTypeList ":[]
	}

Param	Requirement	Type	Description	Example
IsSupportCfg	M	boolean	Capability to configure 0: disabled 1: enabled	1
IsSupportSmoothLevel	M	boolean	Caability of video smooth 0: disabled	0

			1: enabled	
IsSupportImageFormat	M	boolean	Capability of image format 0: disabled 1: enabled	0
EncodeFormatNum	M	unsigned long	Encode format number	
EncodeFormatList	C	array	Encode format list 0：MJPEG 1：H.264 2：H.265 3：JPEG	[1,2]
MinIFrameInterval	M	unsigned long	Minimum GOP	5
MaxIFrameInterval	M	unsigned long	Maximum GOP	250
StreamCapabilityNum	M	unsigned long	Stream number capability	
StreamCapabilityList	C	array	Stream capability list	
StreamCapability	M	Json Block	Stream capability info, see StreamCapability Json Block	
VideoModeNum	M	unsigned long	Number of video mode supported	3
VideoModeInfoList	C	Json Block	Video mode list	
VideoModeInfo	M	Json Block	Video mode info, see VideoModeInfo Json Block	
GOPTypeNum	M	unsigned long	Number of GOP type	
GOPTypeList	C	array	GOP type list, 0: IP 1: IBP 2: IBBP 3: I Optional when GOPTypeNum is 0	[0, 3]

StreamCapability

StreamCapability Json Block	{ “ID”: , “ResolutionNum”: , “ResolutionCapabilityList”:[<ResolutionCapability>, <ResolutionCapability>…] "MaxFrameRate":,

	"MaxMJPEGFrameRate": “SmartEncode”:<SmartEncodeInfo> }

Param	Requirement	Type	Description	Example
ID	M	unsigned long	Stream ID: 0Main stream 1Sub stream 2Third stream	3
ResolutionNum	M	unsigned long	Number of supported resolutions.	4
ResolutionCapabilityList	M	array	Supported resolutions. Relations of resolution: Main stream>= Sub stream>= Third stream	
ResolutionCapability	M	Json Block	Detailed resolution info. See ResolutionCapability Json Block	
MaxFrameRate	C	unsigned long	Maximum frame rate of current stream. Supported by IPC.	25
MaxMJPEGFrameRate	C	unsigned long	MJPEGMaximum frame rate of current MJPEG stream. Supported by IPC.	5
SmartEncode	M	Json Block	Extended image encoding format. See SmartEncodeInfo Json Block	

VideoModeInfo

VideoModeInfo Json Block	{
	“Resolution”: {
	“Width”: ,
	“Height”:
	},
	“FrameRate”:
	}

Param	Requirement	Type	Description	Example

Resolution	M	Json Block	image resolution	
Width	M	unsigned long	Width of image	1920
Height	M	unsigned long	Height of image	1080
FrameRate	M	unsigned long	Maximum frame rate of current stream.	25

ResolutionCapability

ResolutionCapability Json Block	{
	"Width": ,
	"Height": ,
	"MinBitRate": ,
	"MaxBitRate": ,
	"DefaultBitRate":
	}

Param	Requirement	Type	Description	Example
Width	M	unsigned long	Image width.	0
Height	M	unsigned long	Image height.	1
MinBitRate	M	unsigned long	Minimum bit rate.	128
MaxBitRate	M	unsigned long	Maximum bit rate.	16384
DefaultBitRate	C	unsigned long	Default bit rate. upported by NVR.	2048

SmartEncodeInfo

SmartEncodeInfo Json Block	{
	"H264SmartEncodeModeNum": ,
	"H264SmartEncodeModeList": ,
	"H265SmartEncodeModeNum": ,
	"H265SmartEncodeModeList": ,
	}

Param	Requirement	Type	Description	Example
H264SmartEncodeModeNum	M	unsigned long	Number of smart H.264 encoding formats supported.	2
H264SmartEnc	M	array	Extended H.264 encoding	[1,2]

odeModeList			format: 0.Off 1.Basic(basic smart encoding mode) 2.Advanced(advanced smart encoding mode)	
H265SmartEncodeModeNum	M	unsigned long	Number of smart H.265 encoding formats supported.	2
H265SmartEncodeModeList	M	array	Extended H.265 encoding formats: 0.off 1.Basic (basic smart encoding format) 2.Advanced (advanced smart encoding format)	[1,2]

AudioCapabilityInfo

AudioCapabilInfo Json Block	{
	"AudioInNum": ,
	"AudioInModeInfoList": [<AudioModeInfo>, ...],
	"AudioInEncodeFormatNum":,
	"AudioInEncodeFormatInfoList": [<EncodeFormatInfo>,...]
	"SerialInNum": ,
	"SerialInModeInfoList":[<AudioModeInfo>, ...]
	"SerialInEncodeFormatNum": ,
	"SerialInEncodeFormatInfoList":[<EncodeFormatInfo>, ...]
	}

Param	Requirement	Type	Description	Example
AudioInNum	M	unsigned long	Number of audio inputs supported.	2
AudioInModeInfoList	C	array	List of audio input modes.	---
AudioModeInfo	M	Json Block	Audio input mode. See AudioModeInfo Json Block for details.	---
AudioInEncodeFormatNum	M	unsigned long	Number of supported encoding formats for audio input.	3
AudioInEncodeFormat	C	array	List of supported encoding	---

InfoList			formats for audio input.	
EncodeFormatInfo	M	Json Block	Info about supported encoding formats. See EncodeFormatInfo Json Block for details.	---
SerialInNum	M	unsigned long	Number of serial port inputs supported. Used to connect external digital sound pickup.	1
SerialInModeInfoList	C	array	List of serial port input modes.	---
SerialInEncodeFormat Num	M	unsigned long	Number of supported encoding formats for serial port input.	
SerialInEncodeFormat InfoList	M	array	List of supported encoding formats for serial port input. See EncodeFormatInfo Json Block for details.	

EncodeFormatInfo

EncodeFormat Info Json Block	{
	"Type": ,
	"Num",
	"SampleList":
	}

Param	Requirement	Type	Description	Example
Type	M	unsigned long	Audio encoding format types: 0 : MPEG1 1 : G.711A 2 : G.711U 3 : ADPCM 4 : OGG 5 : Auto 6 : AAC-LC	2
Num	M	unsigned long	Number of sampling rates supported.	3
SampleList	M	array	Sampling rate list: 0 : 8KHz 1 : 16KHZ	[1, 2, 6]

			2 : 22.05KHZ 3 : 24KHZ 4 : 32KHZ 5 : 44.1KHZ 6 : 48KHZ 7 : 96KHZ	

AudioModeInfo

AudioModeInfo Json Block	{
	"Channel": ,
	"ModeNum",
	"ModeList":
	}

Param	Requirement	Type	Description	Example
Channel	M	unsigned long	Audio channel ID.	2
ModeNum	M	unsigned long	Number of audio modes.	2
ModeList	C	array	Supported audio input channel modes. Optional if ModeNum=0. 0: LINE 1: MIC 2: RS485 digital sound pickup.	[0, 1]

VideoStreamInfoList

VideoStreamInfoList Json Block	{
	"Num":,
	"VideoStreamInfos":[<VideoStreamInfo>,<VideoStreamInfo>,……]
	}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	Number of video streams.	1
VideoStreamInfos	C	array	Video stream info list. Optional if	-

			Num=0.	
VideoStreamInfo	M	Json Block	Video stream info. See VideoStreamInfo Json Block for details.	-

VideoStreamInfo

VideoStreamInfo Json Block	{
	"ID":,
	"MainStreamType":,
	"Enabled":,
	"VideoEncodeInfo":<VideoEncodeInfo>
	}

Param	Requirement	Type	Description	Example
ID	M	unsigned long	Video stream ID, starts from 0. 0:Main stream 1:Sub stream 2:Third stream	0
MainStreamType	C	unsigned long	0 :Main scheduled stream 1: Main event stream Effective if ID=0. Only used by NVR.	0
Enabled	M	boolean	Whether encoding is enabled for video stream: 0:No 1:Yes	1
VideoEncodeInfo	M	Json Block	Video encoding parameter info. See for VideoEncodeInfo Json Block details.	-

VideoEncodeInfo

VideoEncodeInfo Json Block	{
	"EncodeFormat":,
	"Resolution": {
	"Width":,
	"Height":

	}, "BitRate":, "BitRateType":, "FrameRate":, "GOPType": "IFrameInterval":, "ImageQuality":, "SmoothLevel":, "SVCMode":, "SmartEncodeMode": }

Param	Requirement	Type	Description	Example
EncodeFormat	M	unsigned long	Video encode format info 0：MJPEG 1：H.264 2：H.265	2
Resolution	M	Json Block	Resolution	
Width	M	unsigned long	Width	1920
Height	M	unsigned long	Height	1080
BitRate	M	unsigned long	Bit rate	4096
BitRateType	M	unsigned long	Bit rate type 0：CBR 1：VBR	0
FrameRate	M	unsigned long	Frame rate	25
GOPType	C	unsigned long	GOP type 0：IP 1：IBP 2：IBBP 3：I IPC supported	0
IFrameInterval	M	unsigned long	GOP，range is determined by the capability	50
ImageQuality	C	unsigned long	Image quality, range: [1, 9] (9 for best). Effective only when BitrateType=VBR. Can be absent when ineffective.	9
SmoothLevel	M	unsigned long	Smooth level, range: [1,9] (1 for lowest).	5
SVCMode	C	boolean	SVC configuration	0

			0：off 1：on IPC supported	
SmartEncodeMode	M	unsigned long	Smart encoding mode: 0：off 1： Basic(basic smart encoding mode 2：Advanced(advanced encoding mode)	2

AudioInputCfg

AudioInputCfg Json Block	{
	"IsMute":,
	"Type":,
	"EncodeFormat ":,
	"SampleRate":,
	"InputGain":,
	"NoiseReduction": {
	"Enabled":,
	"Mode":,
	"Strength":
	}
	"AudioInputNum":
	"AudioInputList": [<AudioInput>,<AudioInput>,.....],
	"SerialInputNum":
	"SerialIInputList": [<AudioInput>.....],
	}

Param	Requirement	Type	Description	Example
IsMute	M	boolean	Whether sound is mute: 0:No 1:Yes	0
Type	M	unsigned long	Collection type: 0:Audio input 1:Serial port	
EncodeFormat	M	unsigned long	Audio encoding format. See definitions in EncodeFormatInfo.	2
SampleRate	M	unsigned long	Audio sampling rate. See definition in	0

			EncodeFormatInfo.	
InputGain	M	unsigned long	Audio input gain, range: [0,255].	128
NoiseReduction	M	Json Block	Noise reduction info.	1
Enabled	M	unsigned long	Whether noise reduction is enabled: 0: No 1: Yes	0
Mode	O	unsigned long	Reserved, currently not in use.	
Strength	O	unsigned long	Reserved, currently not in use.	1
AudioInputNum	M	unsigned long	Number of audio inputs.	
AudioInputList	C	array	Audio input collection info. Mandatory if Type=0.	
AudioInput	M	Json Block	Audio input channel info. see AudioInput Json Block for details.	
SerialIInputNum	M	unsigned long	Number of serial port inputs.	1
SerialInputList	C	array	Audio collection through serial port. Mandatory if Type=1.	

AudioInput

AudioInput Json Block	{
	"ID":,
	"Enabled":,
	"Mode":,
	}

Param	Requirement	Type	Description	Example
ID	M	unsigned long	Audio channel ID, starts from 1.	1
Enabled	M	unsigned long	Whether audio input channel is enabled.	1
Mode	M	unsigned long	Audio input channel modes:	0

			0: LINE 1: MIC 2:RS485 digital sound pickup.	

OSDCapabilities

OSDCapabilities Json Block	{
	"IsSupportCfg": ,
	"SupportedOSDContentTypeNum": ,
	"SupportedOSDContentTypeList": ,
	"IsSupportFontSizeCfg": ,
	"IsSupportFontColorCfg": ,
	"MaxAreaNum": ,
	"MaxOSDNum": ,
	"MaxPerAreaOSDNum": ,
	"SupportedTimeFormatNum": ,
	"SupportedTimeFormatList": ,
	"SupportedDateFormatNum": ,
	"SupportedDateFormatList":
	}

Param	Requirement	Type	Description	Example
IsSupportCfg	M	boolean	Whether configuration is supported: 0No 1Yes	0
SupportedOSDContentTypeNum	M	unsigned long	Number of supported OSD content types:	6
SupportedOSDContentTypeList	M	array	Configurable OSD content types: 0 : Not use 1 : Custom 2 : Time&date 3 : PTZ controller 4 : PTZ coordinates 5 : Patrol info 6 : Zoom info 7 : Preset info 8 : Alarm info	[1,2,3,10,16,17]

			9 : Encoding info 10 : OSDSerial port OSD 11 : PTZ position info 12 : Channel name 13 : Debug OSD 14 : People counting OSD 15 : Network interface OSD 16 : Time 17 : Date 18 : Ultra smart OSD 19 : Battery OSD 20 : Rolling caption OSD 21: LOGO OSD 22: Vehicle flow (LPR) 23: Non-vehicle flow (LPR) 24: Pedestrian flow (LPR) 25: Number of INFOOSD types	
IsSupportFontSizeCfg	M	boolean	Whether OSD size can be configured.	0
IsSupportFontColorCfg	M	boolean	Whether OSD color can be configured.	0
MaxAreaNum	M	unsigned long	Maximum number of OSD areas.	8
MaxOSDNum	M	unsigned long	Maximum number of OSDs.	8
MaxPerAreaOSDNum	M	unsigned long	Maximum number of OSDs in each area.	8
SupportedTimeFormatNum	M	unsigned long	Number of time OSD formats.	6
SupportedTimeFormatList	M	array	Time OSD formats: h/H=12/24 Hour; tt=A.M. or P.M.; mm=Minute; ss=Second; xxx=millisecond 0: HH:mm:ss() 1: hh:mm:ss t.t.() 2: hh:mm:ss tt() 3: tt hh:mm:ss(()) 4: hh:mm:ss(())	7

			5: HH:mm:ss.xxx() 6: hh:mm:ss.xxx tt()	
SupportedDateFormatNum	M	unsigned long	Number of date OSD formats.	6
SupportedDateFormatList	M	unsigned long	Date OSD formats: MMMMJuneddddMon 0-5 0: yyyy-MM-dd 1: MM-dd-yyyy 2: yyyyMMdd 3: MMddyyyy 4: yyyyMMdd X 5: MMddyyyy X 100-108 100: dd/MM/yyyy 101: MM/dd/yyyy 102: dd MMMM, yyyy 103: MMMM dd, yyyy 104: dddd, dd MMMM, yyyy 105: dddd, MMMM dd, yyyy 106: yyyy/MM/dd 107: yyyy, MMMM dd 108: dddd, yy, MM dd	[0,1,2,3,4,5]

OSDContentStyle

OSDContentStyle Json Block	{
	"FontStyle":,
	"FontSize":,
	"Color":,
	"DateFormat":,
	"TimeFormat":,
	"FontAlignList":,
	"Margin":
	}

Param	Requirement	Type	Description	Example
FontStyle	C	unsigned long	Font style 0 : Background 1 : Stroke	3

			2 : Hollow 3 : Normal IPCSupported by IPC.	
FontSize	M	unsigned long	Font size. 0 : X-large 1 : Large 2 : Medium 3 : Small	1
Color	M	unsigned long	Color (decimal) A RGB color is calculated based on the combination of relative brightness of three primary colors: red, gree and blue, with value range 0-255 for each primary color. Formula: (65536*Red + 256*Green + Blue). To apply color #665432, apply 65536 * 102 (66 in decimal) + 256 * 84(54 in decimal) + 50(32 in decimal) = 6706226(#665432 in decimal). To apply RGB(102, 84, 50), apply 65536 * 102 + 256 * 84 + 50 = 6706226.	
DateFormat	M	unsigned long	Date format (see OSDCapabilities for corresponding enumerations).	7
TimeFormat	M	unsigned long	Time format (see OSDCapabilities for corresponding enumerations).	2
FontAlignList	C	array	Font alignment in area, 0 : Left aligned 1 : Right aligned Supported by IPC	[0,1,1,0,0,0,0,0]
Margin	C	unsigned long	Number of character(s) in the margin: 0:None 1:character width 2:character width Supported by IPC.	2

OSDContent

OSDContent Json Block	{ "Num": , "ContentList":[<OSDContentInfo> ,< OSDContentInfo>,.....}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	Number of OSD contents.	8
ContentList	C	array	OSD content info list. Optional if Num=0.	-
OSDContentInfo	M	Json Block	OSD content info. Note: For NVR, channel name always uses the 1st OSD, date&time always uses the 2nd; people counting (if supported, determined by querying capabilities) always uses the 3rd; and other scene names always use the remaining OSDs respectively. See OSDContentInfo Json Block for details.	-

OSDContentInfo

OSDContentInfo Json Block	{
	"ID": ,
	"Enabled": ,
	"Num": ,
	"ContentInfo": [{
	"ContentType": ,
	"Value":
	},.....]
	"Area": {
	"TopLeft": {
	"X": ,
	"Y":
	}
	}

	}

Param	Requirement	Type	Description	Example
ID	M	unsigned long	OSD ID, range: [0,7].	0
Enabled	M	boolean	Whether OSD is enabled: 0: No 1: Yes	1
Num	M	unsigned long	Number of OSDs in an area, subject to MaxPerAreaOSDNum in OSDCapabilities. For NVR, one OSD in each area.	2
ContentInfo	M	array	OSD content info.	-
ContentType	M	unsigned long	OSD content types: 0 : Not use 1 : Custom 2 : Time&date 3 : PTZ controller 4 : PTZ coordinates 5 : Patrol info 6 : Zoom info 7 : Preset info 8 : Alarm info 9 : Encoding info 10 : OSDSerial port OSD 11 : PTZ position info 12 : Channel name 13 : Debug OSD 14 : People counting OSD 15 :Network interface OSD 16 : Time 17 : Date 18 : Ultra smart OSD 19 : Battery OSD 20:Rolling caption OSD 21 :LOGO OSD 22 Vehicle flow (LPR) 23 Non-vehicle flow (LPR) 24: Pedestrian flow (LPR) 25: Number of INFOOSD types	1

Value	M	string	OSD text info.	“OSD 文本”
Area	M	Json Block	OSD area info.	-
TopLeft	M	Json Block	Top left coordinates of area.	
X	M	unsigned long	Horizontal coordinate of OSD, range: [0,9999].	200
Y	M	unsigned long	Vertical coordinate of OSD, range: [0,9999].	200

OSDList

OSDList Json Block	{ "ContentStyle": <OSDContentStyle> , "Num": , "ContentList":[<OSDContentInfo> ,< OSDContentInfo>,.....}

Param	Requirement	Type	Description	Example
ContentStyle	M	Json Block	OSD style. See OSDContentStyle Json Block for details.	-
Num	M	unsigned long	Number of OSD areas.	8
ContentList	C	array	Area and OSD info list. See OSDContentInfo Json for details. Optional if Num=0.	-

SnapshotURLInfo

SnapshotURLInfo Json Block	{
	"Num":,
	"PicInfos":[<PicInfo>,.....]
	}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	Number of URL	2
PicInfos	C	array	Alarm pictures ,	-

			optional when Num is 0	
PicInfo	M	Json block	Alarm picture info	See PicInfo Json Block

PicInfo

PicInfo Json Block	{
	"URL":,
	"Name":,
	"Size":
	}

Param	Requirement	Type	Description	Example
URL	M	string	Alarm picture URL，string lenth: [1,128]。	http://206.5.3.32:80/LAPI/V1.0/Channels/1/Alarm/Snapshot
Name	M	string	Picture name，string lenth: [1,64]。	ubs_19_0_0_1_0_1_409_2795
Size	M	unsigned long	Picture size, unit: byte	64164

SnapshotCapabilities

SnapshotCapabilities Json Block	{
	“SupportSnapshotCfg”:,
	"PictureMaxSize": ,
	“ResolutionNum”: ,
	“ResolutionCapabilityList”:[<SnapshotResolutionCapability>,
	<SnapshotResolutionCapability>…]
	}

Param	Requirement	Type	Description	Example
SupportSnapshotCfg	M	boolean	Whether snapshot is configurable: 0: No 1: Yes	1
PictureMaxSize	M	unsigned long	Max snapshot size allowed.	800
ResolutionNum	M	unsigned long	Number of resolutions supported.	4
ResolutionCa	C	array	Snapshot resolutions	

pabilityList			supported; not needed when ResolutionNum=0.	
SnapshotResolutionCapability	M	Json Block	Detailed snapshot resolution info. See SnapshotResolutionCapability Json Block for details.	

SnapshotResolutionCapability

SnapshotResolutionCapability Json Block	{
	"Width": ,
	"Height":
	}

Param	Requirement	Type	Description	Example
Width	M	unsigned long	Image width	1920
Height	M	unsigned long	Image height	1680

SnapshotInfo

SnapshotInfo Json Block	{
	"Enabled":,
	"Resolution":{
	"Width":,
	"Height":
	},
	"PictureMaxSize":
	}

Param	Requirement	Type	Description	Example
Enabled	M	Boolean	Whether snapshot is enabled. 0: Disabled 1: Enabled	0
Resolution	M	Json block	Snapshot resolution	
Width	M	unsigned long	Snapshot width Unit: pixel	1920

			See snapshot capability for supported snapshot resolutions.	
Height	M	unsigned long	Snapshot height. Unit: pixel See snapshot capability for supported snapshot resolutions.	1080
PictureMaxSize	M	unsigned long	Max snapshot size. Unit: KB This value cannot exceed the max snapshot size in snapshot capability.	10

LiveStreamURL

/LAPI/V1.0/Channels/<ID>/Media/Video/Streams/<ID>/LiveStreamURL?TransType=<TransType>&TransProtocol=<TransProtocol>

URL	/LAPI/V1.0/Channels/<ID>/Media/Video/Streams/<ID>/LiveStreamURL?TransType=<TransType>&TransProtocol=<TransProtocol>			
Description	It is used to get the live video URL of specified stream of the specified video channel.			
Method	GET			

Success Return Data	{
	"LoginName":,
	"PIN":,
	"URL":
	}			

Note	Caller should get the media stream through RTSP after they get the URL For IPC , Channel ID is 0 in fix. IPC & NVR & VMS supported			
Status				
Param	**Requ**	**Type**	**Description**	**Example**

	irement			
Streams/<ID>	M	unsigned long	Video stream ID, which is numbered in sequence from 0.	0
TransType	O	unsigned long	Stream transmission type: 0:transmit 1:direct connection VMS supported, 0 for default	0
TransProtocol	C	unsigned long	Transmission protocol: 0 : TCP 1 : UDP VMS supported, corporate with TransType	1
LoginName	C	string	Device username encrypted using private algorithm; decryption library is available. Required if VMS Transtype=1.	sdfsdf
PIN	C	string	Device password encrypted using private algorithm; decryption library is available. Required if Transtype=1.	sdfsdfjskdsdfsdfjskdsdfsdfjs
URL	M	string	Live video URL corresponding to the specified video stream.	rtsp://192.168.0.13:554/media/video1

Records

/LAPI/V1.0/Channels/<ID>/Media/Video/Streams/<ID>/Records?Begin=<Begin>&End=<End>&Limit=<Limit>&Offset=<Offset>&Types=<Types>&RelationOfTypes=<RelationOfTypes>&Position=<Position>

URL	/LAPI/V1.0/Channels/<ID>/Media/Video/Streams/<ID>/Records?Begin=<Begin>&End=<End>&Limit=<Limit>&Offset=<Offset>&Types=<Types>&RelationOfTypes=<RelationOfTypes >&Position=<Position>
Description	Query info about recording file of a video stream of specified video channel during a specified time.
Method	GET
Input Data	None

Success Return Data	RecordList
Note	IPC & NVR & VMS
Status	

Param	Ranger	Type	Description	Example
Begin	M	unsigned long	Start time of recording query in UTC, unit: sec	1454428800
End	M	unsigned long	End time of recording query in UTC, unit: sec	1454435960
Limit	C	unsigned long	Number of recordings queried [0, 100] Only supported by IPC.	100
Offset	C	unsigned long	The recording from which the query starts. Only supported by IPC.	100
Types	O	unsigned long	Recording type to query, described by the order of bit (left to right: 0-31), each represents a recording type. A bit with 1 means the corresponding recording type is effective. 0: Manual recording (this type is expressed by an all-0 value because it cannot be queried together with other recording types) BIT0: Common alarm (not supported by NVR) BIT1: Motion detection BIT2: Alarm input BIT3: Video loss BIT4: Audio detection BIT5: Transaction info (not supported by NVR) BIT6: Scheduled recording BIT7: Face detection BIT8: Cross line detection BIT9: Intrusion detection All recording types will be queried if this field is absent.	Query motion detection recording: 00000000000000000000000000000100 = 4. Fill in with 4. Query motion detection and face detection recording: 00000000000000000000000100000100 = 260. Fill in with 260.

			Only supported by NVR.	
RelationOfTypes	C	unsigned long	Relation between recording types: 0: AND 1: OR Not needed when Types is absent or with one recording type. Required in the case of two or more recording types. Only supported by NVR.	1
Position	O	unsigned long	Location of recording to query: 1: Local recording 2: Recording on other devices Only supported by VMS.	1

/LAPI/V1.0/Channels/<ID>/Media/Video/Streams/RecordURL？Begin=<Begin>&End=<End>&Types=<Types>&RelationOfTypes=<RelationOfTypes>&Position=<Position>&SessionID=<SessionID>&TransType=<TransType>

URL	/LAPI/V1.0/Channels/<ID>/Media/Video/Streams/RecordURL?Begin=<Begin>&End=<End>&Types=<Types>&RelationOfTypes=<RelationOfTypes>&Position=<Position>&SessionID=<SessionID>&TransType=<TransType>
Description	Query the RTSP URL of specific time, record type and channel
Method	GET
Input Data	None

Success Return Data	{
	"URL": ""
	}

Note	The URL that returned by this interface is only used for play and download stream that is based on RTSP IPC & NVR & VMS
Status	

Param	Requirement	Type	Description	Example

Begin	O	unsigned long	Recording start time in UTC, unit: sec. End time is required if start time exists.	1454428800
End	O	unsigned long	Recording end time in UTC, unit: sec. Start time is required if end time exists.	1454435960
Types	O	unsigned long	Type of recording to query, described by order of BIT (from left to right 0-31), each BIT represents a recording type. BIT=1 means valid recording type. 0: Manual recording (this type cannot be mixed with other recording types and therefore is represented with all-zeros value.) BIT0: Common alarm (currently not supported by NVR) BIT1:Motion detection BIT2:Alarm input BIT3:Video loss BIT4:Audio detection BIT5: Transaction info (currently not supported by NVR) BIT6:(Scheduled recording) BIT7:(Face detection) BIT8:(Cross line detection) BIT9:(Intrusion detection) All types of recordings will be queried if this field is absent.	Query motion detection recording: 00000000000000000000000000000100 = 4 Fill in with 4. Query motion detection and face detection recording: 00000000000000000000000100000100 = 260 Fill in with 260.
RelationOfTypes	O	unsigned long	Relation of recording types: 0:AND 1:OR Optional if Types is absent or there is only one recording type. Mandatory if there are two or more recording types.	1

Position	O	unsigned long	Location of recording to play: 1:Local recording 2:Recoding on other device VMS Currently used by VMS only.	1
SessionID	O	unsigned long	Session ID used to forward playback streams, starts from 1. Currently only used by VMS.	1
TransType	O	unsigned long	0:VMS forwards 1:IPC/NVR connect directly	0
URL	M	string	RTSP URL of recording, range: [0,128]	rtsp://206.5.3.13:554/c2/replay/

/LAPI/V1.0/Channels/<ID>/Media/Video/Streams/Records/DailyDistribution?Year=<Year>&Month=<Month>&Position=<Position>

URL	/LAPI/V1.0/Channels/<ID>/Media/Video/Streams/Records/DailyDistribution?Year=<Year>&Month=<Month>&Position=<Position>
Description	Query the recording info of specific month and channel.
Method	GET
Input Data	None

Success Return Data	{
	"Nums": ,
	"DailyStatuses": [<Status>, <Status>, <Status>, <Status>…]
	}

Note	NVR
Status	

Param	Ranger	Type	Description	Example
Year	M	unsigned long	Year	2016
Month	M	unsigned long	Month, starts from 1.	9
Position	O	unsigned long	Location of recording to query: 1: Local recording.	1

			2: Recording on other device. Currently used by VMS only.	
Nums	M	unsigned long	Actual days of a month.	30
DailyStatuses	C	Array	Daily recording status list. Optional if Nums=0.	
Status	M	unsigned long	Recording status: 0:No recording 1:Event recording 2:Normal recording Event recording has a higher priority level than normal recording.	1

/LAPI/V1.0/Channels/Media/Video/Streams/RecordFileSize

URL	/LAPI/V1.0/Channels/Media/Video/Streams/RecordFileSize
Description	Query video record file size of specified time zone.
Method	POST
Input Data	RecordChannelInfoList
Success Return Data	RecordFileList
Note	NVR
Status	

Talk

/LAPI/V1.0/Channels/<ID>/Media/Talk

URL	/LAPI/V1.0/Channels/<ID>/Media/Talk
Description	Get URL of audio for two-way audio for specified video channel.
Method	GET

Success Return Data	{
	"URL":
	}

Note	After getting the URL, the caller uses RTSP to get audio stream for two-way audio. For IPC, the ID is fixed to 0 in the URL. IPC & VMS.
Status	

Param	Requirement	Type	Description	Example
URL	M	string	URL of live video stream corresponding to the specified audio stream.	rtsp://192.160.1.22:554/media/video1

Capabilities

/LAPI/V1.0/Channels/<ID>/Media/Video/Capabilities

URL	/LAPI/V1.0/Channels/<ID>/Media/Video/Capabilities
Description	Query video capability of specified video channel.
Method	GET
Input Data	None
Success Return Data	VideoCapabilityInfo
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Media/Audio/Capabilities

URL	/LAPI/V1.0/Channels/<ID>/Media/Audio/Capabilities
Description	Query audio capability of specified video channel.
Method	GET
Input Data	None
Success Return Data	AudioCapabilityInfo
Note	IPC
Status	

/LAPI/V1.0/Channels/<ID>/Media/Snapshot/Capabilities

URL	/LAPI/V1.0/Channels/<ID>/Media/Snapshot/Capabilities
Description	Query snapshot capability of specified video channel.
Method	GET
Input Data	None
Success Return Data	SnapshotCapabilities
Note	IPC
Status	

Video

Streams

/LAPI/V1.0/Channels/<ID>/Media/Video/Streams/DetailInfos

URL	/LAPI/V1.0/Channels/<ID>/Media/Video/Streams/DetailInfos
Description	Query info about all video streams of specified video channel.
Method	GET
Input Data	None
Success Return Data	VideoStreamInfoList
Note	IPC & NVR & VMS
Status	

URL	/LAPI/V1.0/Channels/<ID>/Media/Video/Streams/DetailInfos
Description	Set info about all video streams of specified video channel.
Method	PUT
Input Data	VideoStreamInfoList
Success Return Data	None
Note	IPC & NVR
Status	

Mode

/LAPI/V1.0/Channels/<ID>/Media/Video/Mode

URL	/LAPI/V1.0/Channels/<ID>/Media/Video/Mode
Description	Query image capturing mode.
Method	GET
Input Data	None
Success Return Data	VideoModeInfo
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Media/Video/Mode
Description	Set image capturing mode.

Method	PUT
Input Data	VideoModeInfo
Success Return Data	None
Note	NVR & IPC
Status	

Audio

/LAPI/V1.0/Media/Audio/Input

URL	/LAPI/V1.0/Media/Audio/Input
Description	Get audio input parameters.
Method	GET
Input Data	None
Success Return Data	AudioInputCfg
Note	IPC
Status	

URL	/LAPI/V1.0/Media/Audio/Input
Description	Set audio input parameters.
Method	PUT
Input Data	AudioInputCfg
Success Return Data	None
Note	IPC
Status	

OSD

/LAPI/V1.0/Channels/<ID>/Media/OSDs/Capabilities

URL	/LAPI/V1.0/Channels/<ID>/Media/OSDs/Capabilities
Description	Query OSD configuration capability.
Method	GET
Input Data	None
Success Return Data	OSDCapabilities
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Media/OSDs/ContentStyle

URL	/LAPI/V1.0/Channels/<ID>/Media/OSDs/ContentStyle
Description	Query OSD content style.
Method	GET
Input Data	None
Success Return Data	**OSDContentStyle**
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Media/OSDs/ContentStyle
Description	Set OSD content style.
Method	PUT
Input Data	**OSDContentStyle**
Success Return Data	None
Note	IPC & NVR 支持。
Status	

/LAPI/V1.0/Channels/<ID>/Media/OSDs/Contents

URL	/LAPI/V1.0/Channels/<ID>/Media/OSDs/Contents
Description	Query OSD content.
Method	GET
Input Data	None
Success Return Data	**OSDContent**
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Media/OSDs/Contents
Description	SetOSD content.
Method	PUT
Input Data	**OSDContent**
Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Media/OSDs

URL	/LAPI/V1.0/Channels/<ID>/Media/OSDs
Description	Query all OSD info.
Method	GET

Input Data	None
Success Return Data	**OSDList**
Note	NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Media/OSDs
Description	Set all OSD info.
Method	PUT
Input Data	**OSDList**
Success Return Data	None
Note	NVR
Status	

Snapshot

/LAPI/V1.0/Channels/<ID>/Media/Video/Streams/<ID>/Snapshot

URL	/LAPI/V1.0/Channels/<ID>/Media/Video/Streams/<ID>/Snapshot
Description	Snapshot (not in preview).
Method	GET
Input Data	None
Success Return Data	Content-Length: 123131 Content-Type: image/jpeg Accept-Ranges: bytes 图片数据
Note	IPC & NVR
Status	

Param	Requirement	Type	Description	Example
Channels/<ID>	M	unsigned long	ID: video channel ID	1
Streams/<ID>	M	unsigned long	ID: stream ID 0：Main stream 1：Sub stream 2：Third stream	0

/LAPI/V1.0/Channels/<ID>/Alarm/SnapshotURL?Type=<Type>&Time=<Time>

URL	/LAPI/V1.0/Channels/<ID>/Alarm/SnapshotURL?Type=<Type>&Time=<Time>
Description	Query URL of alarm picture
Method	GET
Input Data	None
Success Return Data	SnapshotURLInfo
Note	NVR & VMS
Status	

Param	Requirement	Type	Description	Example
ID	M	unsigned long	Video input channel ID	1
Type	M	string	Alarm type: "MotionAlarmOn": start of motion alarm "VideoLossAlarmOn": Start of video loss alarm "AbnormalAudioOn": start of abnormal audio alarm	"MotionAlarmOn"
Time	M	unsigned long	UTC time that alarm occurred, starts from seconds of 1, 1st, 1970, 0 o'clock	1476088399

/LAPI/V1.0/IO/InputSwitches/<ID>/Alarm/SnapshotURL?Time=<Time>

URL	/LAPI/V1.0/IO/InputSwitches/<ID>/Alarm/SnapshotURL?Time=<Time>
Description	Query URL of Alarm picture that is linked by I/O input
Method	GET
Input Data	None
Success Return Data	SnapshotURLInfo
Note	NVR & VMS
Status	

Param	Require	Type	Description	Example

	ment			
ID	M	unsigned long	ID of alarm input NVR: the parameter is the made of channel ID*100+alarm input number, the channel ID of the device itself is 0; VMS: the parameter is the ID number in the configuration	1
Time	M	unsigned long	UTC time that alarm occurred, starts from seconds of 1, 1st, 1970, 0 o'clock	1476088399

/LAPI/V1.0/Channels/<ID>/Alarm/Snapshot?Name=<Name>&Size=<Size>

URL	/LAPI/V1.0/Channels/<ID>/Alarm/Snapshot?Name=<Name>&Size=<Size>
Description	Query snapshot picture
Method	GET
Input Data	None
Success Return Data	Content-Length: 44 Content-type: image/jpeg Accept-Ranges: bytes 图片数据
Note	Name and Size are returned by the interface of query alarm picture URL NVR & VMS
Status	

Param	Requirement	Type	Description	Example
ID	M	unsigned long	Channel ID of channel with snapshot picture	1
Name	M	string	Name of the picture, length of [1,64]	"aaa"
Size	M	unsigned long	Size of picture, unit: byte	61440

/LAPI/V1.0/Channels/<ID>/Media/Snapshot/Info

URL	/LAPI/V1.0/Channels/<ID>/Media/Snapshot/Info
Description	Query snapshot parameters of specified video channel.
Method	GET
Input Data	None
Success Return Data	SnapshotInfo
Note	IPC
Status	

URL	/LAPI/V1.0/Channels/<ID>/Media/Snapshot/Info
Description	Set snapshot parameters of specified channel.
Method	PUT
Input Data	SnapshotInfo
Success Return Data	None
Note	IPC
Status	

Network

Json Block

NICCapabilities

NICCapabilities Json Block	{
	 "WorkModeNum": ,
	 "WorkModeList":,
	 "NICNum":
	 }

Param	Requirement	Type	Description	Example
WorkModeNum	C	unsigned long	the number of work mode of the NIC NVR &VMS supported	3
WorkModeList	C	array	work mode list 0: multiple address set 1: network load balancing 2: network fault tolerant	[0,1,2]
NICNum	M	unsigned long	Number of NIC	4

NetworkInterfaceInfoList

NetworkInterfaceInfo List Json Block	{
	"Num": ,
	"NetworkInterfaceList":[<NetworkInterfaceInfo>,<NetworkInterfaceInfo>,...]
	"DefaultRouteNIC": ,
	"WorkMode":
	}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	Number of NIC	1
NetworkInterfaceList	C	array	NIC info list, available only when Num is 0	
NetworkInterfaceInfo	M	Json Block	detailed info of each NIC	See NetworkInterfaceInfo Json Block
DefaultRouteNIC	C	unsigned long	NIC ID for the default router, required when there are multiple NICs. NVR &VMS supported	1
WorkMode	C	unsigned long	work mode list 0: multiple address set 1: network load balancing 2: network fault tolerant Required when there are multiple NICs. NVR &VMS support	0

NetworkInterfaceInfo

NetworkInterfaceInfo Json Block	{
	"ID":,
	"Name":,
	"WorkMode":,
	"IsInnerNIC":,
	"InnerNICIPAddress":,
	"InnerNICNetmask":,
	"InnerNICName":,
	"MTU":,
	"MAC":,
	"NegotiationMode":,
	"IPv4": {
	"IPGetType":,
	"PPPoE": {
	"LoginName":,
	"PIN":
	},
	"AddressNum":,
	"AddressList": [
	{
	"Address":,
	"Netmask":,
	"Gateway":
	}]
	},
	"IPv6": {
	"IPGetType":,
	"AddressNum":,
	"AddressList": [
	{
	"PrefixLenth":,
	"Address":,
	"Gateway":
	}]
	}
	}

Param	Requirement	Type	Description	Example
ID	M	unsigned long	NIC ID,read only For VMS &IPC, start	1

			from :1 For NVR,it is a kind of source code and can be acquired through method etho	
Name	C	string	name of NIC, read only NVR &IPC supported	"eth0"
WorkMode	C	unsigned long	woke mode list 0: multiple address set 1: network load balancing 2: network fault tolerant VMS required	0
IsInnerNIC	M	boolean	Estimate if it is the inner NIC when dealing with the IP address configuration of the NVR POE port. Optional 0 no 1 yes	false
InnerNICIPAddress	C	string	IP address of the Inner NIC, required when IsInnerNIC is 1	“172.16.0.1”
InnerNICNetmask	C	string	Netmask of the Inner NIC. Read only	“255.255.0.0”
InnerNICName	C	string	Name of Inner NIC; Read only	“eth0”
MTU	M	unsigned long	Lenth of MTU, [576,1500]	1500
MAC	M	string	MAC address, read only. Lenth of string [0,48]	"48:EA:63:17:1F:40"
NegotiationMode	C	unsigned long	Work mode of Network port 0: :auto-negotiation 1: 10M FULL 2: 10M HALF 3: 100M FULL 4: 100M HALF 5: 1000M FULL 6: 10M AUTO 7: 100M AUTO 8: 1000M AUTO	0

			IPC supported only	
IPv4	O	Json Block	IPv4 info, optional when device does not support IPv4	
IPGetType	C	unsigned long	method to get IP address, 3 when in IPv4: 0 for static 1 for PPPOE 2 for DHCP IPv6 3 when IPv6: 0: for manual 1: for DHCP 2: for route advertisement IPC supports only manual	0
PPPoE	C	Json Block	required when IPGetType is 1. IPC &NVR supported	
LoginName	C	string	PPPoE account	"TestUser"
PIN	C	string	PPPoE password(MD5)	"21232f297a57a5a74389"
AddressNum	C	unsigned long	number of IP address	1
AddressList	C	array	list of IP address	
Address	C	string	IP address, length of string [0,64]	"203.5.1.82" 或 "2001:0:0:301::115"
Netmask	C	string	netmask, with length of string [0,64]	"255.255.255.0"
Gateway	C	string	default gateway, length of string [0,64]	"203.5.1.1"或者 "2001:0:0:301::1"
IPv6	C	Json Block	IPv6 info, optional when device doesn't support IPv6	
PrefixLenth	C	unsigned long	lenth of network prefix, [3,127]	64

DNSInfo

DNSList Json Block	{
	"Num": ,
	"DNSList": [<DNSAddress>, <DNSAddress>…]
	}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	number of DNS address	2
DNSList	C	array	List of DNS, alternate the first as the chief by default. Only supports two DNS address	“8.8.4.4”
DNSAddress	M	Json Block	DNS address, see DNSAddress Json Block	

DNSAddress

DNSAddress Json Block	{
	"AddressType": ,
	"IPAddress": ,
	"IPv6Address":
	}

Param	Requirement	Type	Description	Example
AddressType	M	unsigned long	type of IP address 0: IPv4 1: IPv6 3: for both IPv4 &IPv6 IPv4 supported only now	0
IPAddress	C	string	IPv4 address, lenth [0,64] Required when AddressType is 0 or 3	206.5.99.17
IPv6Address	C	string	IPv6 address, lenth [0,64] Required when AddressType is 1 or 3	

Capabilities

/LAPI/V1.0/Network/Capabilities

URL	/LAPI/V1.0/Network/Capabilities
Description	Query the capability of NIC
Method	GET
Input Data	None
Success Return Data	NICCapabilities
Notes	NVR
Status	

Interfaces

/LAPI/V1.0/Network/Interfaces

URL	/LAPI/V1.0/Network/Interfaces
Description	Query the configuration of NICs
Method	GET
Input Data	None
Success Return Data	**NetworkInterfaceList**
Note	IPC & NVR & VMS
Status	

URL	/LAPI/V1.0/Network/Interfaces
Description	Set the configuration of NICs
Method	PUT
Input Data	**NetworkInterfaceList**
Success Return Data	None
Note	IPC & NVR & VMS
Status	

/LAPI/V1.0/Network/Interfaces/<ID>

URL	/LAPI/V1.0/Network/Interfaces/<ID>
Description	Query the configuration of appointed NIC
Method	GET

Input Data	None
Success Return Data	NetworkInterfaceInfo
Note	NVR
Status	

URL	/LAPI/V1.0/Network/Interfaces/<ID>
Description	Set the configuration of appointed NIC
Method	PUT
Input Data	NetworkInterfaceInfo
Success Return Data	**None**
Note	NVR
Status	

/LAPI/V1.0/Channels/<ID>/Network/Interfaces

URL	/LAPI/V1.0/Channels/<ID>/Network/Interfaces
Description	Query and set the configuration of NICs with specified channel
Method	GET
Input Data	None
Success Return Data	NetworkInterfaceList
Note	NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Network/Interfaces
Description	Set the configuration of NICs with specified channel
Method	PUT
Input Data	NetworkInterfaceList
Success Return Data	**None**
Note	NVR
Status	

/LAPI/V1.0/Channels/<ID>/Network/Interfaces/<ID>

URL	/LAPI/V1.0/Channels/<ID>/Network/Interfaces/<ID>
Description	Query the configuration of appointed NIC with specified channel
Method	GET
Input Data	None
Success Return Data	NetworkInterfaceInfo
Note	NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Network/Interfaces/<ID>
Description	Set the configuration of appointed NIC with specified channel
Method	PUT
Input Data	**NetworkInterfaceInfo**
Success Return Data	None
Note	NVR
Status	

DNS

/LAPI/V1.0/Network/DNS

URL	/LAPI/V1.0/Network/DNS
Description	Query the DNS address
Method	GET
Input Data	None
Success Return Data	**DNSInfo**
Note	IPC & NVR & VMS
Status	

URL	/LAPI/V1.0/Network/DNS
Description	Set the DNS address
Method	PUT
Input Data	**DNSInfo**
Success Return Data	None
Note	IPC & NVR & VMS
Status	

Image

Json Block

EnhanceCapabilitiesInfo

EnhanceCapabilitiesInfo Json Block	{ "ImageRotationModeNum": , "ImageRotationModeList": ,

	"IsSupportSharpness":, "IsSupport2DNoiseReduce":, "IsSupport3DNoiseReduce": }

Param	Requirement	Type	Description	Example
ImageRotationModeNum	M	unsigned long	Number of image rotation modes supported.	3
ImageRotationModeList	C	array	Image rotation mode list: 0: Normal 1: Flip Vertical 2: Flip Horizontal 3: 180° 4: 90° Clockwise 5: 90° Anti-clockwise Not needed when ImageRotationModeNum=0.	[1,3,5]
IsSupportSharpness	M	boolean	Whether supports sharpness: 0: No 1: Yes	1
IsSupport2DNoiseReduce	M	boolean	Whether supports 2D noise reduction: 0: No 1: Yes	0
IsSupport3DNoiseReduce	M	boolean	Whether supports 3D noise reduction: 0: No 1: Yes Supported by IPC and VMS.	0

FocusInfoCapabilitiesInfo

FocusInfoCapabilitiesInfo Json Block	{ "SupportFocusCfg":, "FocusModeNum":, "FocusModeList":, "FocusSceneNum":,

	"FocusSceneList": }

Param	Requirement	Type	Description	Example
SupportFocusCfg	M	boolean	Whether focus is configurable: 0: No 1: Yes	1
FocusModeNum	M	unsigned long	Number of focus modes supported.	
FocusModeList	C	array	Focus mode list: 0: Auto 1: Manual 2: One-click focus 3: One-click focus (IR) 4: One-click focus (lock) One-click focus: trigger a one-time automatic focus when operating the device (such as rotating, zooming or calling a preset) on the PTZ. One-click focus (IR): suitable for low-light environment such as at night or in a dark room. One-click focus (lock): Perform an automatic focus following a zoom; other actions cannot trigger focus. Not needed when FocusModeNum=0.	[1,2,3,4]
FocusSceneNum	M	unsigned long	Number of focus scenes supported.	
FocusSceneList	C	array	Focus scenes supported: 0: Normal 1: Long distance 2: Indoor	[1,2]

			Normal: Suitable for common scenes such as road, park. Long distance: suitable for remote road scenes, for example, when device installation height is over 30m. Indoor: suitable for indoor scenes. Not needed when FocusSceneNum=0.	

LampInfo

LampInfo Json Block	{
	“LampType”: ,
	“LampCtrlModeListNum”: ,
	“LampCtrlModeList”: ,
	“SupportNearLampCfg”:,
	“SupportMiddleLampCfg”:,
	“SupportFarLampCfg”: ,
	“SupportSuperFarLampCfg”:,
	“SupportLaserAngleCfg”:,
	“LaserAngleMin”: ,
	“LaserAngleMax”:
	}

Param	Requirement	Type	Description	Example
LampType	M	unsigned long	Lamp type: 0: No lamp 1: White light 2: Infrared 3: Laser 4: Housing IR illuminator	1
LampCtrlModeListNum	M	unsigned long	Number of control modes supported.	
LampCtrlModeList	C	Array	Control modes supported: 0: Global Mode 1: Overexposure Restrain 2: Preset-Road	0

			3: Manual 4: Preset-Park 5: Auto Sensitivity Control 6: Indoor 7: Manual-Always On 8: Video detection mode Global Mode and Overexposure Restrain: Lamp on/off is triggered by day/night mode; illumination intensity is calculated based on AE algorithm. Preset-Road Mode or Preset-Park Mode: Lamp on/off is triggered by day/night mode; illumination intensity is calculated in real time based on the current zoom ratio, PTZ angle, and preset table files. Manual Mode: Lamp on/off is triggered by day/night mode; illumination intensity is determined by the value set on screen. Manual-Always On: Lamp is turned on by force; not triggered by day/night mode. Video Detection Mode: Triggered by day/night mode and smart virtual iris status; the lamp is turned on only when day/night mode is night and smart virtual iris is on; illumination intensity is determined by the value set on screen. Not needed when LampCtrlModeListNum=0.	
SupportNearLampCfg	M	boolean	Whether near-illumination level is configurable:	0

			0: No 1: Yes	
SupportMiddleLampCfg	M	boolean	Whether mid-illumination level is configurable: 0: No 1: Yes	0
SupportFarLampCfg	M	boolean	Whether far-illumination level is configurable: 0: No 1: Yes	0
SupportSuperFarLampCfg	M	boolean	Whether super far illumination level is configurable: 0: No 1: Yes	1
SupportLaserAngleCfg	M	boolean	Whether laser angle is configurable: 0: No 1: Yes	0
LaserAngleMin	C	unsigned long	Minimum laser angle; not needed when SupportLaserAngleCfg=0.	
LaserAngleMax	C	unsigned long	Maximum laser angle; not needed when SupportLaserAngleCfg=0.	

LampCtrlCapabilitiesInfo

LampCtrlCapabilitiesInfo Json Block	{
	"LampNum":
	"LampInfos": [<LampInfo>,<LampInfo>,……]
	}

Param	Requirement	Type	Description	Example
LampNum	M	unsigned long	Number of lamp types supported. 0 means the device does not support lamp.	
LampInfos	C	array	Lamp info list; not needed when LampNum=0.	
LampInfo	M	Json Block	Lamp info.	See LampInfo Json Block

				for details.

ExposureCapabilitiesInfo

ExposureCapabilitiesInfo Json Block	{
	"SupportCompensation":,
	"ExposureModeNum":,
	"ExposureModeList":,
	"SupportIrisCfg":,
	"IrisRangeNum":,
	"IrisRangeList":,
	"MinGain":,
	"MaxGain":,
	"SupportHLCCfg":,
	"SupportMeteringCfg":,
	"MeteringModeNum":,
	"MeteringModeList":,
	"Shutter": <**ShutterCapabilitiesInfo**>,
	"WideDynamic"<WideDynamicCapabilitiesInfo>,
	"DayNight": <**DayNightCapabilitiesInfo**>
	}

Param	Requirement	Type	Description	Example
SupportCompensationCfg	M	boolean	Whether exposure compensation is configurable: 0: No 1: Yes	1
ExposureModeNum	M	unsigned long	Number of exposure modes supported.	
ExposureModeList	C	array	Exposure modes supported: 0: Auto 1: Custom 2: Shutter priority 3: Iris priority 4: Gain priority 5: Indoor 50Hz 6: Indoor 60Hz 7: Manual 8: Low motion blur Not needed when	[0,1,3,4,6,7]

			ExposureModeNum=0.	
SupportIrisCfg	M	boolean	Whether iris is configurable: 0: No 1: Yes	1
IrisRangeNum	M	unsigned long	Number of iris values supported.	
IrisRangeList	C	array	Iris values supported: 160, 200, 240, 280, 340, 400, 480, 560, 680, 800, 960, 1100,1400, 1600, 2200 Not needed when IrisRangeNum=0.	[160, 200, 240]
MinGain	M	unsigned long	Minimum gain supported.	1
MaxGain	M	unsigned long	Maximum gain supported.	100
SupportHLCCfg	M	boolean	Whether HLC sensitivity is configurable: 0: No 1: Yes	1
SupportMeteringCfg	M	boolean	Whether metering control is configurable: 0: No 1: Yes	1
MeteringModeNum	M	unsigned long	Number of metering control modes supported.	
MeteringModeList	C	array	Metering control modes: 0: Center-weighted average metering 1: Evaluative Metering 2: Highlight Compensation 3: Vehicle Metering 4: Face Metering 5: Spot Metering	[0,1,2,3,4,5]

			Not needed when MeteringModeNum=0.	
Shutter	M	Json block	Shutter	See **ShutterCapabilitiesInfo Json Block** for details.
WideDynamic	M	Json block	WDR	See WideDynamicCapabilitiesInfo **Json Block** for details.
DayNight	M	Json block	Day/night mode	See **DayNightInfo Json Block** for details.

ImageCapabilities

ImageCapabilities Json Block	{ "IsSupportCfg":, "SupportIlluminationCfg", "Enhance": <EnhanceCapabilitiesInfo>, "Focus":<FocusCapabilitiesInfo>, "LampCtrl":< LampCtrlCapabilitiesInfo>, "Exposure": <ExposureCapabilitiesInfo> }

Param	Requirement	Type	Description	Example
IsSupportCfg	M	boolean	Whether image parameters are configurable: 0: No 1: Yes	1
SupportIllumination Cfg	M	boolean	Whether can obtain relative illumination level: 0: No 1: Yes Only supported by IPC.	1
Enhance	M	Json block	Image enhancement parameter.	See EnhanceCapabilitiesInfo **Json Block** for details.
Focus	M	Json block	Focus capability parameter.	See

			Only supported by IPC.	FocusCapabilitiesInfo **Json Block** for details.
LampCtrl	M	Json block	Lamp capability parameter. Only supported by IPC.	See LampCtrlCapabilitiesInfo **Json Block** for details.
Exposure	M	Json block	Exposure capability parameter. Only supported by IPC.	See ExposureCapabilitiesInfo **Json Block** for details.
备注：本接口其他参数暂时不对外发布。				

DayNightCapabilitiesInfo

DayNightCapabilitiesInfo Json Block	{
	"SupportDayNightCfg":,
	"DayNightModeNum":,
	"DayNightModeList":,
	"SupportSensibilityCfg":,
	"SupportSwitchingCfg":
	}

Param	Requirement	Type	Description	Example
SupportDayNightCfg	M	boolean	Whether day/night mode is configurable: 0: No 1: Yes	1
DayNightModeNum	M	unsigned long	Number of day/night mode types supported.	
DayNightModeList	C	array	Day/night mode types: 0: Auto 1: Day-Color 2: Night-Black/white 3: Trigger Color to Black Not needed when DayLightModeNum=0.	[0,1,2]
SupportSensibi	M	boolean	Whether day/night mode	1

批注 [t1]: DayLight 修改为 DayNight

批注 [t2]: 同上

批注 [t3]: 同上

批注 [t4]: 同上

批注 [t5]: 同上

批注 [t6]: 同上

lityCfg			sensitivity is configurable: 0: No 1: Yes	
SupportSwitchingCfg	M	boolean	Whether day/night mode switching time is configurable: 0: No 1: Yes	1

WideDynamicCapabilitiesInfo

WideDynamicCapabilitiesInfo Json Block	{
	"SupportWideDynamicCfg":,
	"WideDynamicModeNum":,
	"WideDynamicModeList":
	}

Param	Requirement	Type	Description	Example
SupportWideDynamicCfg	M	boolean	Whether WDR is configurable: 0: No 1: Yes	1
WideDynamicModeNum	M	unsigned long	Number of WDR modes supported.	
WideDynamicModeList	C	array	WDR modes: 0: Off 1: On 2: Auto Not needed when WideDynamicModeNum=0.	[0,1]

ShutterCapabilitiesInfo

ShutterCapabilities Json Block	{
	"SupportShutterTimeCfg":
	"ShtterTimeUnit":
	"ShutterTimeRangeNum":
	"ShutterTimeRangeList":
	"SupportSlowShutterCfg":,
	"SlowShutterTimeRangeNum":,
	"SlowShutterTimeRangeList":
	}

Param	Requirement	Type	Description	Example
SupportShutterTimeCfg	M	boolean	Whether shutter time is configurable. 0: No 1: Yes	1
ShtterTimeUnit	M	unsigned long	Shutter time unit: 0: Microsecond 1: Second	1
ShutterTimeRangeNum	M	unsigned long	Number of shutter time values supported.	
ShutterTimeRangeList	C	array	Shutter time values supported: 0: Auto 1: 1/1 2: 1/2 3: 1/3 4: 1/4 6: 1/6 8: 1/8 10: 1/10 12: 1/12 15: 1/15 20: 1/20 25: 1/25 30: 1/30 50: 1/50 60: 1/60 100: 1/100 120: 1/120 150: 1/150 180: 1/180 200: 1/200 250: 1/250 500: 1/500 1000: 1/1000 2000: 1/2000 4000: 1/4000 8000: 1/8000 50000: 1/50000 100000: 1/100000 Not needed when ShutterTimeRangeNum=0.	[0,4,8,10]
SupportSlowShutterCfg	M	boolean	Whether slow shutter is configurable:	1

			0: No 1: Yes	
SlowShutterTimeRangeNum	M	unsigned long	Number of slow shutter time values supported.	
SlowShutterTimeRangeList	C	array	Slow shutter time values: 0: Auto 1: 1/1 2: 1/2 3: 1/3 4: 1/4 6: 1/6 8: 1/8 10: 1/10 12: 1/12 15: 1/15 20: 1/20 25: 1/25 Not needed when SlowShutterTimeRangeNum=0.	[0,4,8,10]

ImageEnhanceInfo

ImageEnhanceInfo Json Block	{
	"Brightness": ,
	"Contrast":,
	"Saturation":,
	"Sharpness":,
	"ImageRotation":,
	"2DNoiseReduce":,
	"3DNoiseReduce":
	}

Param	Requirement	Type	Description	Example
Brightness	M	unsigned long	Brightness, range[0,255]	128
Contrast	M	unsigned long	Contrast, range[0,255]	128
Saturation	M	unsigned long	Saturation, range[0,255]	128
Sharpness	C	unsigned long	Enhanced configuration Sharpness, range[0,255] Required when using GET. When using PUT for	128

			deploy, the segment NeedSetEnhanceInfo should be 1.	
ImageRotation	C	unsigned long	Enhanced configuration for image rotation. Required when using GET. When using PUT for deploy, the segment NeedSetEnhanceInfo should be 1.	1
2DNoiseReduce	C	unsigned long	Enhanced configuration 2D noise reduce, range[0,255] Required when using GET. When using PUT for deploy, the segment NeedSetEnhanceInfo should be 1.	128
3DNoiseReduce	C	unsigned long	3D noise reduce, range[0,255] IPC supported	128

FocusInfo

FocusInfo Json Block	{ "Mode": , "Scene": }

Param	Requirement	Type	Description	Example
Mode	M	unsigned long	Focus mode (see FocusInfoCapabilitiesInfo for enumerations of supported modes).	1
Scene	C	unsigned long	Focus scene (see FocusInfoCapabilitiesInfo for enumerations of supported scenes). Required when supported by image capability.	5

LampCtrlInfo

LampCtrlInfo Block Json	{ "Enabled": , "Type": , "Mode": , "NearLevel": , "MiddleLevel": , "FarLevel": , "SuperFarLevel ": , "LaserAngle": }

Param	Requirement	Type	Description	Example
Enabled	M	Boolean	Lamp enablement: 0: Disable 1: Enable	1
Type	M	unsigned long	Lamp type (see LampCtrlCapabilitiesInfo for enumerations of supported modes).	1
Mode	M	unsigned long	Lamp control modes (see LampCtrlCapabilitiesInfo for enumerations of supported modes).	1
NearLevel	C	unsigned long	Near-illumination level Effective when IR control mode is Manual or Manual-Always On. Required when supported by lamp capability. Range: [0-1000] Higher level means higher illumination intensity.	5
MiddleLevel	C	unsigned long	Mid-illumination level. Effective when IR control mode is Manual or	5

			Manual-Always On. Required when supported by lamp capability. Range: [0-1000] Higher level means higher illumination intensity.	
FarLevel	C	unsigned long	Far-illumination level Effective when IR control mode is Manual or Manual-Always On. Required when supported by lamp capability. Range: [0-1000]. Higher level means higher illumination intensity.	5
SuperFarLevel	C	unsigned long	Super far illumination level Effective when IR control mode is Manual or Manual-Always On. Required when supported by lamp capability. Range: [0-1000] Higher level means higher illumination intensity.	5
LaserAngle	C	unsigned long	Laser angle Effective when lamp type is laser, and IR control mode is Manual or Manual-Always On. Required when supported by lamp capability. See lamp capability for the range. A smaller angle means more energy of higher intensity; a greater angle means scattered energy.	1

IrisInfo

IrisInfo Json Block	{
	“Iris”:,
	“MinIris”:,
	“MaxIris”:
	}

Param	Requirement	Type	Description	Example
Iris	C	unsigned long	Iris Not needed in Iris Priority or Manual Exposure mode. Required when supported by image capability. See image capability for enumerations.	160
MinIris	C	unsigned long	Minimum iris. Effective when in custom exposure mode. See iris capability for enumerations; must not be greater than the maximum iris. Required when supported by image capability.	160
MaxIris	C	unsigned long	Maximum iris. Effective when in custom exposure mode. See iris capability for enumerations; must not be smaller than the minimum iris. Required when supported by image capability.	200

ShutterInfo

ShutterInfo Json Block	{
	“Shutter”:,
	“MinShutter”:,
	“MaxShutter”:,
	“IsEnableSlowShutter”:,
	“SlowestShutter”:
	}

Param	Requir	Type	Description	Example

	ement			
Shutter	C	unsigned long	Shutter time. Effective when in shutter priority, manual exposure, and low motion blur mode. Required when supported by image capability. See image capability for enumerations and unit.	0
MinShutter	C	unsigned long	Minimum shutter time. Effective when in custom exposure mode. See shutter capability for enumerations; must not be greater than the maximum shutter time. Required when supported by image capability.	0
MaxShutter	C	unsigned long	Maximum shutter time. Effective when in custom exposure mode. See shutter capability for enumerations; must not be smaller than the minimum shutter time. Required when supported by image capability.	30
IsEnableSlowShutter	C	boolean	Slow shutter enablement. Effective when not in shutter priority mode 0: Disable 1: Enable Required when supported by image capability.	1
SlowestShutter	C	unsigned long	Effective when slow shutter is enabled. Slowest shutter. Required when supported by image capability. See image capability for enumerations.	20

GainInfo

GainInfo Json Block	{ “Gain”:,

	"MinGain":, "MaxGain": }

Param	Requirement	Type	Description	Example
Gain	C	unsigned long	Gain (unit: db) Effective when in manual exposure mode. Required when supported by image capability. See image capability for the range.	0
MinGain	C	unsigned long	Minimum gain. Effective when in custom exposure mode; must not be greater than the maximum gain. Required when supported by image capability; see image capability for the range.	0
MaxGain	C	unsigned long	Maximum gain. Effective when in custom exposure mode; must not be smaller than the minimum gain. Required when supported by image capability; see image capability for the range.	30

WideDynamicInfo

WideDynamicInfo Json Block	{
	"Mode":,
	"Level":,
	"OpenSensitivity":,
	"CloseSensitivity":,
	"AntiFlicker":
	}

Param	Requirement	Type	Description	Example
Mode	M	unsigned long	See WideDynamicCapabilitiesInfo for enumerations.	1
Level	M	unsigned long	WDR level.	1

			Effective when WDR is enabled and in one of these exposure modes: auto, custom, shutter priority, indoor 50Hz, indoor 60Hz, and low motion blur. Range: [1, 9]	
OpenSensitivity	M	unsigned long	Sensitivity for turning on WDR. Effective when in auto WDR mode. Range: [1, 9]	1
CloseSensitivity	M	unsigned long	Sensitivity for turning off WDR. Effective when in auto WDR mode. Range: [1, 9]	1
AntiFlicker	M	boolean	WDR anti-flicker: 0: Disable 1: Enable When enabled, this function can reduce flickers in the image.	1

DayNightInfo

DayNightInfo Json Block	{
	"Mode":,
	"Sensitivity":,
	"Time":
	}

Param	Requirement	Type	Description	Example
Mode	C	unsigned long	Day/night mode type. See DayNightCapabilitiesInfo for enumerations. Required when supported by image capability.	2
Sensitivity	C	unsigned long	Day/night mode sensitivity. Effective when day/night mode is auto. Range: [0, 9] Required when supported by image capability.	4
Time	C	unsigned long	Day/night mode switching time. Effective when day/night mode is	3

			auto. Range: [3, 120] Unit: second Required when supported by image capability.	

MeteringInfo

MeteringInfo Json Block	{
	"Mode": ,
	“RefBrightness”:
	“HoldTime”:
	"Area": {
	"TopLeft": {
	"X":,
	"Y":
	},
	" BottomRight": {
	"X":,
	"Y":
	}
	}
	}

Param	Requirement	Type	Description	Example
Mode	C	unsigned long	Metering control mode. Effective when not in manual exposure mode. See ExposureCapabilitiesInfo for enumerations. Required when supported by image capability.	1
RefBrightness	C	unsigned long	Face brightness. Effective when in face metering mode. Range: [0, 100]	1
HoldTime	C	unsigned long	Minimum duration. Effective when in face metering mode. Unit: min Range: [0, 60]	1
MeteringArea	C	Json block	Metering area.	

			Effective when in evaluative metering or spot metering mode.	
TopLeft	M	Json block	Coordinates of top left corner	(25, 25)
X	M	unsigned long	X-axis of top left corner (scale) Evaluative metering range: [0, 100]	25
Y	M	unsigned long	Y-axis of top left corner (scale) Evaluative metering range: [0, 100]	25
BottomRight	M	Json block	Coordinates of bottom right corner	(75, 75)
X	M	unsigned long	X-axis of bottom right corner (scale): Evaluative metering range: [0, 100]. Must not be smaller than X-axis of top left corner.	75
Y	M	unsigned long	Y-axis of bottom right corner (scale): Evaluative metering range: [0, 100] Must not be smaller than Y-axis of top left corner.	75

ExposureInfo

ExposureInfo Json Block	{
	"Mode": ,
	"CompensationLevel":,
	"HLCSensitivity":,
	"IrisInfo": IrisInfo,
	"ShutterInfo": ShutterInfo,
	"GainInfo": GainInfo,
	"WideDynamic": WideDynamicInfo,
	"Metering": MeteringInfo,
	"DayNight": DayNightInfo
	}

Param	Requirement	Type	Description	Example
Mode	M	unsigned long	Exposure mode. See ExposureCapabilitiesInfo	0

			for enumerations.	
Compensation Level	C	unsigned long	Exposure compensation level. Effective when not in manual exposure mode. Range: [-100,100] Required when supported by image capability.	0
HLCSensitivity	C	unsigned long	HLC sensitivity. Effective when the scene is road or park. Range: [1, 9]. Required when supported by image capability.	
IrisInfo	C	Json Block	Iris info. Required when supported by image capability.	
ShutterInfo	C	Json Block	Shutter info. Required when supported by image capability.	
GainInfo	M	Json Block	Gain info.	
WideDynamic	C	Json Block	WDR info. See WideDynamicInfo for details. Required when supported by image capability.	
Metering	C	Json Block	Metering info. See MeteringInfo for details. Effective when the scene is not road or park. Required when supported by image capability.	
DayNight	C	Json Block	Day/night mode info. See DayNightInfo for details. Required when supported by image capability.	

IlluminationInfo

IlluminationInfo
Json Block
	{
	"Value":
	}

Param	Requir	Type	Description	Example

	ement			
Value	C	unsigned long	Relative illumination level, which is normalized and divided into [0-255] levels. A higher level means greater overall brightness for the scene. Required when supported by image capability.	1

Capabilities

/LAPI/V1.0/Channels/<ID>/Image/Capabilities

URL	/LAPI/V1.0/Channels/<ID>/Image/Capabilities
Description	Query the image parameter to the appointed channel
Method	GET
Input Data	None
Success Return Data	**ImageCapabilities**
Note	IPC & NVR
Status	

Enhance

/LAPI/V1.0/Channels/<ID>/Image/Enhance

URL	/LAPI/V1.0/Channels/<ID>/Image/Enhance
Description	Query the image enhanced parameter of the appointed channel
Method	GET
Input Data	None
Success Return Data	ImageEnhanceInfo
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Image/Enhance
Description	Set the image enhanced parameter of the appointed channel
Method	PUT
Input Data	ImageEnhanceInfo
Success Return Data	None

Note	IPC & NVR
Status	

Focus

/LAPI/V1.0/Channels/<ID>/Image/FocusInfo

URL	/LAPI/V1.0/Channels/<ID>/Image/FocusInfo
Description	Query focus parameter for the specified video channel.
Method	GET
Input Data	None
Success Return Data	FocusInfo
Note	IPC
Status	

批注 [t7]: Focus 修改为 FocusInfo

URL	/LAPI/V1.0/Channels/<ID>/Image/FocusInfo
Description	Set focus parameter for the specified video channel.
Method	PUT
Input Data	FocusInfo
Success Return Data	None
Note	IPC
Status	

批注 [t8]: 同上

LampCtrl

/LAPI/V1.0/Channels/<ID>/Image/LampCtrl

URL	/LAPI/V1.0/Channels/<ID>/Image/LampCtrl
Description	Query lamp parameter of the specified video channel.
Method	GET
Input Data	None
Success Return Data	LampCtrlInfo
Note	IPC
Status	

URL	/LAPI/V1.0/Channels/<ID>/Image/LampCtrl
Description	Set lamp parameter of the specified video channel.
Method	PUT

Input Data	**LampCtrlInfo**
Success Return Data	None
Note	IPC
Status	

Exposure

/LAPI/V1.0/Channels/<ID>/Image/Advanced/Exposure

URL	/LAPI/V1.0/Channels/<ID>/Image/Advanced/Exposure
Description	Query image exposure parameter.
Method	GET
Input Data	None
Success Return Data	ExposureInfo
Note	IPC
Status	

URL	/LAPI/V1.0/Channels/<ID>/Image/Advanced/Exposure
Description	Set image exposure parameter.
Method	PUT
Input Data	ExposureInfo
Success Return Data	None
Note	IPC
Status	

Illumination

/LAPI/V1.0/Channels/<ID>/Image/Illumination

URL	/LAPI/V1.0/Channels/<ID>/Image/Illumination
Description	Query relative illumination level.
Method	GET
Input Data	None
Success Return Data	IlluminationInfo
Note	IPC
Status	

Storage

Json Block

StorageCapabilities

StorageCapabilities Json Block	{
	"IsSupportRedundancy": ,
	"IsSupporteSATA": ,
	}

Param	Requirement	Type	Description	Example
IsSupportRedundancy	M	boolean	if support redundancy 0: no 1:yes	1
IsSupporteSATA	M	boolean	if support eSATA 0: no 1:yes	0

ContainerInfoList

ContainerInfoList Json Block	{
	"LocalHDDNum" : ,
	"LocalHDDList": [<ContainerInfo>, <ContainerInfo>,……],
	"SDNum" : ,
	"SDList": [<ContainerInfo>, <ContainerInfo>,……],
	"ArrayNum" : ,
	"ArrayList":[<ContainerInfo>, <ContainerInfo>,……],
	"ExtendCabinet1HDDNum" : ,
	"ExtendCabinet1HDDList": [<ContainerInfo>, <ContainerInfo>,……],
	"ExtendCabinet2HDDNum" : ,
	"ExtendCabinetHDDList": [<ContainerInfo>, <ContainerInfo>,……],
	"NASNum" : ,
	"NASList": [<ExContainerInfo>, <ExContainerInfo>,……],
	"eSATANum" : ,
	"eSATAList": [<ExContainerInfo>, <ExContainerInfo>,……],
	}

Param	Requirement	Type	Description	Example
LocalHDDNum	M	unsigned long	the number of local harddisk	4
LocalHDDList	C	array	info list of local harddisk, optional when segment LocalHDDNum is 0	-
SDNum	M	unsigned long	the number of SD card. NVR &VMS are not supported. Reserved parameter.	0
SDList	C	array	the info list of SD card. Optional when segment SDNum is 0.	-
ArrayNum	M	unsigned long	the number of storage array.	1
ArrayList	C	array	the info list of storage array. Optional when segment ArrayNum is 0.	-
ExtendCabinet1HDDNum	M	unsigned long	the number of harddisk in the extend cabinet 1	2
ExtendCabinet1HDDList	C	array	the info list of the extend cabinet 1, optional when segment ExtendCabinetHDD1Num is 0.	-
ExtendCabinet2HDDNum	M	unsigned long	the number of harddisk in the extend cabinet 2	2
ExtendCabinet2HDDList	C	array	the info list of the extend cabinet 2, optional when segment ExtendCabinetHDD1Num is 0.	-
ContainerInfo	C	Json Block	info of container, refer to ContainerInfo Json Block	-
NASNum	M	unsigned long	number of NAS NVR supported	2
NASList	C	array	the info list of NAS. Optional when segment NASNum is 0.	-
eSATANum	M	unsigned	number of eSATA	2

		long	NVR supported	
eSATAList	C	array	the info list of eSATA. Optional when segment eSATANum is 0.	
ExContainerInfo	M	Json Block	info of extend container, refer to ExContainerInfo Json Block.	-

ContainerInfo

ContainerInfo Json Block	{
	"ID": ,
	"RemainCapacity": ,
	"TotalCapacity": ,
	"Manufacturer": ,
	"Status": ,
	"Property": ,
	"FormatProgress": ,
	"GroupID": ,
	}

Param	Requirement	Type	Description	Example
ID	M	unsigned long	container ID	1
RemainCapacity	M	unsigned long	remaining capacity of the container(MB)	1907730
TotalCapacity	M	unsigned long	total capacity of the container(MB)	1907730
Manufacturer	O	string	name of manufacturer, length of string [1,64]	“ 1,64] 符 串 长 度 er000VX000-9YW1CV12:
Status	M	unsigned long	status of container 0: no hard disk/idle 1: unformatted 2: formatting 3: normal 4: dormant	3

			5: abnormal 6: switching 7: discharged(NAS only, NVR supported)	
Property	C	unsigned long	property of hard disk 0: read and write 1: read 2: backup Optional when segment Status is 0. NVR supported.	0
FormatProgress	O	unsigned long	Format progress in percentage. Required when segment Status is 2.	0
GroupID	O	unsigned long	Group ID	1

ExContainerInfo

ExContainerInfo Json Block	{ "ID": , "RemainCapacity": , "TotalCapacity": , "AddressType": , "IPAddress": , "Path": , "UsageType": , "Status": , "Property": , "FormatProgress": , "GroupID": }

Param	Requirement	Type	Description	Example
ID	M	unsigned long	extend container ID	1
RemainCapacity	M	unsigned long	remain capacity of the extend container(MB)	1907730
TotalCapacity	M	unsigned long	total capacity of the extend container(MB)	1907730
Status	M	unsigned long	status of extend hard disk 0: no harddisk/leisure 1: non-formatting	3

			2: formatting 3: normal 4: dormant 5: abnormal 6: switching 7: unload(NAS only, Unicorn not supported)	
Property	M	unsigned long	property of harddisk 0: read and write 1: read 2: backup	0
FormatProgress	C	unsigned long	format progress in percentage. Required when segment Status is 2.	0
AddressType	C	unsigned long	IP type, IPv4 default 0:IPv4 1:IPv6 2: domain name 3: IPv4 &IPv6 Only IPv4 supported at present. Required when using NAS.	0
IPAddress	C	string	IP address, length of string [0, 64]. Required when using NAS.	“192.168.100.30”
Path	C	string	path of NAS server, length of string [1,256]	“/volume2/123456”
UsageType	M	unsigned long	usage 0: record /snapshot 1: backup	0
GroupID	C	unsigned long	Group ID, 1 as default	1

RecordScheduleInfo

RecordScheduleInfo Json Block	{
	"Enabled": ,
	"IsRedundantStorage": ,
	"RecordRule": {

	"PreRecordTime": , "PostRecordTime": , }, "WeekPlan":<WeekPlanInfo> }

Param	Requirement	Type	Description	Example
Enabled	M	boolean	whether plan enabled 0: no 1: yes	1
IsRedundantStorage	C	unsigned long	whether redundant plan enabled 0: no 1: yes If there's no device for redundant, parameter is invalid.	1
RecordRule	M	Json Block	rule of record plan	-
PreRecordTime	M	unsigned long	Pre-record time, second as unit, range: 0,5,10,20,30,60	5
PostRecordTime	M	unsigned long	Post-record time, second as unit, range: 0,5,10,20,30,60	10
WeekPlan	M	Json Block	list of plan time	-
WeekPlanInfo	M	Json Block	info of plan time, refer to WeekPlanInfo Json Block	-

PictureScheduleInfo

PictureScheduleInfo Json Block	{
	"Enabled": ,
	"IsRedundantStorage": ,
	"WeekPlan":<WeekPlanInfo>
	}

Param	Requirement	Type	Description	Example
Enabled	M	boolean	whether plan enabled 0: no 1: yes	1
IsRedundantStor	C	unsigned	whether redundant snap	1

age		long	enabled 0: no 1: yes If there's no device for redundant, parameter is invalid. NVR supported	
WeekPlan	M	Json Block	list of plan time	-
WeekPlanInfo	M	Json Block	info of plan time, refer to WeekPlanInfo Json Block	-

Capabilities

/LAPI/V1.0/Storage/Capabilities

URL	/LAPI/V1.0/Storage/Capabilities
Description	Query the capabilities of storage
Method	GET
Input Data	None
Success Return Data	StorageCapabilities
Notes	NVR
Status	

Containers

/LAPI/V1.0/Storage/Containers/DetailInfos

URL	/LAPI/V1.0/Storage/Containers/DetailInfos
Description	Query the info list of storage container
Method	GET
Input Data	None
Success Return Data	**ContainerInfoList**
Note	NVR & VMS
Status	

URL	/LAPI/V1.0/Storage/Containers/DetailInfos

Description	set the configuration of storage container
Method	PUT

Input Data	{
	"Num":,
	"ContainerInfoList": [{
	"ID": ,
	"Type": ,
	"Property": ,
	"UsageType": ,
	"GroupID":
	}, {
	"ID": ,
	"Type": ,
	"Property": ,
	"UsageType": ,
	"GroupID":
	}, ……]
	}

Success Return Data	None
Note	NVR & VMS
Status	

Param	Requirement	Type	Description	Example
Num	M	unsigned long	number of storage container to be modified	3
ContainerInfoList	M	array	info list of storage container	-
ID	M	unsigned long	Container ID, read only	1
Type	M	unsigned long	type of container, read only 0:LocalHDD 1:ExtendCabinet1HDD 2:ExtendCabinet2HDD 3:RAID 4:NAS 5:SAN 6:eSATA 7:SD	0
Property	M	unsigned long	property of container 0: read and write 1: ready only 2: backup(only when device supports redundant)	0

			NVR supported	
GroupID	O	unsigned long	Group ID NVR supported	1
UsageType	O	unsigned long	usage 0: record /snap 1: backup(only NAS and eSATA) Invalid when using SD card.	0

Schedule

/LAPI/V1.0/Channels/<ID>/Storage/Schedule/Record

URL	/LAPI/V1.0/Channels/<ID>/Storage/Schedule/Record
Description	Query the record plan for an appointed channel
Method	GET
Input Data	None
Success Return Data	**RecordScheduleInfo**
Note	NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Storage/Schedule/Record
Description	Set the record plan for an appointed channel
Method	PUT
Input Data	**RecordScheduleInfo**
Success Return Data	None
Note	NVR
Status	

/LAPI/V1.0/Channels/<ID>/Storage/Schedule/Picture

URL	/LAPI/V1.0/Channels/<ID>/Storage/Schedule/Picture
Description	Query the capture plan for an appointed channel
Method	GET
Input Data	None
Success Return Data	PictureScheduleInfo
Note	NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Storage/Schedule/Picture

Description	Set the capture plan for an appointed channel
Method	PUT
Input Data	PictureScheduleInfo
Success Return Data	None
Note	NVR
Status	

Alarm

Json Block

AlarmCapabilities

AlarmCapabilities Json Block	<pre>{
	"MotionDetection": {
	"IsSupportCfg": ,
	"RectangleAreaNum": ,
	"BlockWidth": ,
	"BlockHeight":
	},
	"TamperDetection": {
	"IsSupportCfg": ,
	"TamperRectangleAreaNum":
	},
	"AudioDetection": {
	"SupportCfg": ,
	}
	}</pre>

Param	Requirement	Type	Description	Example
MotionDetection	M	Json Block	capability of motion detection	-
IsSupportCfg	M	boolean	whether support configure 0:not support 1:support	1
RectangleAreaNum	C	unsigned long	the number of support rectangle detection area. Optional when not	

			support rectangle area IPC supportive	
BlockWidth	M	unsigned long	maximum block width	22
BlockHeight	M	unsigned long	maximum block height	18
TamperDetection	M	Json Block	capability to detect a tamper	-
IsSupportCfg	M	boolean	whether support configure to linked equipment 0:not support 1:support	1
TamperRectangleAreaNum	M	unsigned long	the number of available tamper detection area, now this number is fixed to 1	1
AudioDetection	M	Json Block	Audio detection capability	
SupportCfg	M	boolean	Whether is configurable: 0: No 1: Yes	1

LinkageActionList

LinkageActionList Json Block	{
	"Num": ,
	"Actions":[< LinkageActionInfo>,...]
	}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	number of linkage	8
Actions	C	array	linkage action information list, this node is not needed when Num is 0	-
LinkageActionInfo	M	Json Block	for more details on linkage action,	-

			please refer to LinkageActionInfo Json Block	

LinkageActionInfo

LinkageActionInfo Json Block	{
	"ActID": ,
	"ActParam":
	}

Param	Requirement	Type	Description	Example
ActID	M	unsigned long	0 link to NVR preview, NVR supportive 1 link to buzzer, IPC currently not supportive 2 link to E-Mail, NVR s supportive 3 link to storage 4 link to PTZ preset 5 link to output switch value 6 link to image capture 7 link to alarm message box, NVR supportive 8 link to central storage 9 link to launch local storage 10 link to pause local storage 11link to image capture and upload to Ftp 12link to image capture and upload to E-Mail 13 link to image capture and upload them to E-mail and Ftp at the same time 14 link to smart image capture and upload 15 link to image capture (small image) of human face and upload 16 link to alarm upload	1
ActParam	C	Json Block	IPC and NVR have different link actions, for more details on corresponding relation	

			between ActID and ActParam, please refer to list below	

ActID	Description	IPC ActParam	NVR ActParam
0	link to NVR preview, NVR supportive	Not Support	ChannelActParamInfo
1	link to buzzer, IPC currently not supportive	Not Support	EnabledActParamInfo
2	link to E-Mail, NVR supporative	Not Support	EnabledActParamInfo
3	link to storage	Not Support	ChannelActParamInfo
4	link to PTZ preset	PresetActParamInfo	PresetActParamInfo
5	link to alarm out	OutputSwitchActParamInfo	OutputSwitchActParamInfo
6	link to image capture	Null	ChannelActParamInfo
7	link to alarm message box, NVR supportive	Not Support	EnabledActParamInfo
8	link to central storage	Null	Not Support
9	link to launch local storage	Null	Not Support
10	link to pause local storage	Null	Not Support
11	link to image captured upload to Ftp	Null	Not Support
12	link to image captured upload to E-Mail	Null	Not Support
13	link to image captue and upload them to E-mail and Ftp at the same time	Null	Not Support
14	link to smart image capture and uplod	Null	Not Support
15	link to image capture (small image) of human face and upload	Null	Not Support
16	link to alarm upload	Null	Not Support

Different alarm recourses link to different linkage actions, for more details on different linkage actions by different product, please refer to the list below

告警及联动动作对应表格.xlsx

EnabledActParamInfo

EnabledActParamInfo Json Block	{
	"Enabled":
	}

Param	Requirement	Type	Description	Example
Enabled	M	boolean	1:linkage enabled 0:linkage disabled	1

ChannelActParamInfo

ChannelActParamInfo Json Block	{
	"Num":,
	"IDs": [<ID>,<ID>…]
	}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	number of video channel	
IDs	C	array	video channel ID	
ID	C	unsigned long	serial number of video channel	1

PresetActParamInfo

PresetActParamInfo Json Block	{
	"Num":,
	"ChannelPresetList": [<ChannelPreset>, <ChannelPreset>…]
	}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	number of linkage action	2
ChannelPresetList	C	array	link to preset information list this field is not needed when Num is 0	

ChannelPreset	C	Json block	serial number of channel and preset	See ChannelPreset Json block

ChannelPreset

ChannelPreset Json Block	{ "ChannelID":, "PresetID" }			
Param	Requirement	Type	Description	Example
ChannelID	C	unsigned long	video input channel ID this field is not needed for IPC	1
PresetID	M	unsigned long	preset ID	1

OutputSwitchActParamInfo

OutputSwitchActParamInfo Json Block	{ “Num”:, “IDs”:[<ID>,<ID>…] }

Param	Requirement	Type	Description	Example
Num	M	unsigned long	number of linked alarm out	M
IDs	C	array	list of linked alarm out	C
ID	C	unsigned long	Alarm out channel ID for NVR, the value is video channel ID*100+alarm output serial number, Equipment channel ID is 0, for VMS, the value is serial number of	1

			equipment itself	

DayPlanInfo

DayPlanInfo Json Block	{
	"ID": ,
	"Num": ,
	"TimeSectionInfos": [<TimeSectionInfo>, …]
	}

Param	Requirement	Type	Description	Example
ID	M	unsigned long	Day index 1:Monday; 2:Tuesday; 3:Wednesday; 4:Thursday; 5:Friday; 6:Saturday; 7:Sunday; 8:Holiday;	1
Num	M	unsigned long	Number of plan everyday up to 8 plans for NVR up to 4 plans for IPC	8
TimeSectionInfos	C	array	arming configuring information, time cross is not allowed at any plan in one day This field is not needed when Num is 0	
TimeSectionInfo	C	Json Block	for more details on arming configuring, please refer to TimeSectionInfo Json Block; This field is not needed when Num is 0	

WeekPlanInfo

WeekPlanInfo Json Block	{
	"Enabled": ,
	"Num": ,
	"Days": [<DayPlanInfo>, ...]
	}

Param	Requirement	Type	Description	Example
Enabled	C	boolean	whether enabled arming plan 0:disabled 1:enabled Only IPC support this field Enabled by default	1
Num	M	unsigned long	number of plan days up to 8 for NVR (7 days a week and holiday) up to 7 for IPC (7 days a week)	8
Days	M	array	arming plan of everyday in one week	
DayPlanInfo	M	Json Block	for more details on arming plan of everyday, please refer to DayPlanInfo Json Block	

TimeSectionInfo

TimeSectionInfo Json Block	{
	"Begin": ,
	"End": ,
	"ArmingType":
	}

Param	Requirement	Type	Description	Example
Begin	M	string	begin time, format hh:mm:ss	00:00:00

			Length range [0,31] NVR not support seconds	
End	M	string	end time, format hh:mm:ss Length range [0,31] NVR not support seconds	24:00:00
ArmingType	C	unsigned long	arming type 0:schedule 1:motion 2:alarm 3:motion and alarm 4:motion or alarm 5:not planned 10:event Alarm plan only support schedule type Recording/image capture plan support all types IPC only support schedule type, schedule by default	

VideoLossRuleInfo

VideoLossRuleInfo Json Blcok	{
	"Enabled":
	}

Param	Requirement	Type	Description	Example
Enabled	M	boolean	whether enabled video loss 0:disabled 1:enabled	1

TamperDetectionRuleInfo

TamperDetectionRuleInfo	{

Json Blcok	"Enabled": , " Sensitivity ": , "Duration": }

Param	Requirement	Type	Description	Example
Enabled	M	boolean	whether enabled tamper detection 0:disabled 1:enabled	1
Sensitivity	M	unsigned long	sensitivity Range [1,100]	50
Duration	C	unsigned long	duration (by seconds), Lengths range [0,10] Needed for IPC	1

MotionDetectionAreaType

MotionDetectionAreaType Json Block	{
	"Type":
	}

Param	Requirement	Type	Description	Example
Type	M	unsigned long	type of motion detection area, currently have two types 0:rectangle area 1:gird area	1

MotionDetectionRectangleAreaInfo

MotionDetectionRectangleAreaInfo Json Block	{
	"ID": ,
	"Enabled": ,
	"Sensitivity": ,
	"Duration": ,
	"TargetSize": ,
	"Area": {

	"TopLeft": {
	"X": 0,
	"Y": 0
	},
	"BottomRight": {
	"X": 10,
	"Y": 10
	}
	}
	}

Param	Requirement	Type	Description	Example
ID	M	unsigned long	Rectangle area ID, start from 0, the maximum number of areas can be accessed through /LAPI/V1.0/Channels/<ID>/Alarm/Capabilities	1
Enabled	M	boolean	Motion detection rectangle area enabled sign 0:disabled 1:enabled	1
Sensitivity	M	unsigned long	Sensitivity of motion detection, the larger the number is, the more sensitive the capability is. range [1,100]	50
Duration	C	unsigned long	duration time, range [1,100] needed for IPC	5
TargetSize	C	unsigned long	target size, range [1,100] needed for IPC	1
RectangleArea	M	Json Block	rectangle area information	-
TopLeft	M	Json Block	top-left coordinate information of rectangle area	-
X	M	unsigned long	Horizontal coordinate,range is 0 to 9999	0
Y	M	unsigned long	Vertical coordinate, range is 0 to 9999	0
BottomRight	M	Json Block	bottom-right coordinate information of rectangle area	-
X	M	unsigned long	Horizontal coordinate, range is 0 to 9999	10
Y	M	Unsigned long	Vertical coordinate, range is 0 to 9999	10

MotionDetectionRectangleAreaInfoList

MotionDetectionRectangleAreaInfoList Json Block	{ "Num": , "RectangleAreas": [<MotionDetectionRectangleAreaInfo>, ……] }

Param	Requirement	Type	Description	Example
Num	M	unsigned long	number of rectangle area	1
RectangleAreas	C	array	rectangle area information list This node is optional when Num is 0	-
MotionDetectionRectangleAreaInfo	M	Json Block	for more details on rectangle area, please refer to MotionDetectionRectangleAreaInfo Json Block	-

MotionDetectionGridAreaInfo

MotionDetectionGridAreaInfo Json Block	{ "Enabled": , "Sensitivity":, "Grid": }

Param	Requirement	Type	Description	Example
Enabled	M	boolean	Motion detection grid area enabled sign 0:disabled 1:enabled	1
Sensitivity	M	unsigned long	Sensitivity of motion detection, the larger the number is, the more sensitive the capability is. Range [1,100]	50
Grid	M	string	detection area, length range [0,256] 1. the image is divided into 22*18 gridding, from top-left corner to bottom-right corner (from	"DWAAAYAABj/5mP/mAAAY/gAgP/4A//77//vv/++//74ABvgB

			left to right, from top to bottom), stack up to396 gridding, and mark them accordingly. Use binary system (8-digit, maximum 255) to present 8 griddings motion detection areas selection status: for 1, the gridding is selected; for 0, the gridding is not selected (from lower to higher positions). all gridding are converted to 50 digital group combined with 8-digit bit. 2.the digital group is compressed by PackBits computing first, then get the compressed string from Base64 coding. for PackBits compression and decompression computing please refer to below: 压缩及解压缩算法.txt	G+AAb4ABvh/2+H/YAf8A"

AudioDetectInfo

AudioDetectInfo Json Block	{
	"Enabled": ,
	"DetectType":,
	"DiffValue": ,
	"Threshold":
	}

Param	Requirement	Type	Description	Example
Enabled	M	boolean	Whether audio detection is enabled: 0: Disabled 1: Enabled	1
DetectType	M	unsigned long	Audio detection trigger type: 0: Sudden Rise 1: Sudden Fall	0

			2: Sudden Change 3: Threshold	
DiffValue	C	unsigned long	Difference value; use when Audio Detection is Sudden Rise, Sudden Fall and Sudden Change; range: [0,400]. Alarm is triggered when Sudden Rise, Sudden Fall or Sudden Change exceeds the difference value.	100
Threshold	C	unsigned long	Threshold value; use when Audio Detection is Threshold; range: [0,400]. Alarm is triggered when sound volume exceeds the threshold value.	100

Capabilities

/LAPI/V1.0/Channels/<ID>/Alarm/Capabilities

URL	/LAPI/V1.0/Channels/<ID>/Alarm/Capabilities
Description	Query channel alarm capabilities information
Method	GET
Input Data	None
Success Return Data	AlarmCapabilities
Note	IPC & NVR
Status	

AudioDetect

/LAPI/V1.0/Channels/<ID>/Alarm/AudioDetection/Rule

URL	/LAPI/V1.0/Channels/<ID>/Alarm/AudioDetection/Rule
Description	Get audio detection configuration.

Method	GET
Input Data	None
Success Return Data	AudioDetectInfo
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Alarm/AudioDetection/Rule
Description	Configure audio detection.
Method	PUT
Input Data	AudioDetectInfo
Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Alarm/AudioDetection/LinkageActions

URL	/LAPI/V1.0/Channels/<ID>/Alarm/AudioDetection/LinkageActions
Description	Query parameters of audio detection triggered action.
Method	GET
Input Data	None
Success Return Data	LinkageActionList
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Alarm/AudioDetection/LinkageActions
Description	Configure parameters of audio detection triggered action.
Method	PUT
Input Data	LinkageActionList
Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Alarm/AudioDetection/WeekPlan

URL	/LAPI/V1.0/Channels/<ID>/Alarm/AudioDetection/WeekPlan
Description	Query arming schedule of audio detection.
Method	GET

Input Data	None
Success Return Data	WeekPlanInfo
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Alarm/AudioDetection/WeekPlan
Description	Configure arming schedule of audio detection.
Method	PUT
Input Data	WeekPlanInfo
Success Return Data	None
Note	IPC & NVR
Status	

MotionDetection

/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/AreaType

URL	/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/AreaType
Description	Query area type of motion detection for specific video channel
Method	GET
Input Data	None
Success Return Data	MotionDetectionAreaType
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/AreaType
Description	Set area type of motion detection for specific video channel
Method	PUT
Input Data	MotionDetectionAreaType
Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/Areas/Rectangle

URL	/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/Areas/Rectangle
Description	Query all rectangle area information of motion detection for certain video channel

Method	GET
Input Data	None
Success Return Data	MotionDetectionRectangleAreaInfoList
Note	IPC
Status	

URL	/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/Areas/Rectangle
Description	Set all rectangle area information of motion detection for certain video channel
Method	PUT
Input Data	MotionDetectionRectangleAreaInfoList
Success Return Data	None
Note	IPC
Status	

/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/Areas/Rectangle/<ID>

URL	/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/Areas/Rectangle/<ID>
Description	Query specific rectangle area information of motion detection for certain video input channel
Method	GET
Input Data	None
Success Return Data	MotionDetectionRectangleAreaInfo
Note	IPC
Status	

URL	/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/Areas/Rectangle/<ID>
Description	Set specific rectangle area information of motion detection for certain video input channel
Method	PUT
Input Data	MotionDetectionRectangleAreaInfo
Success Return Data	None
Note	IPC
Status	

/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/Areas/Grid

URL	/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/Areas/Grid

Description	Query all grid area information of motion detection for certain video input channel
Method	GET
Input Data	None
Success Return Data	MotionDetectionGridAreaInfo
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/Areas/Grid
Description	Set all grid area information of motion detection for certain video input channel
Method	PUT
Input Data	MotionDetectionGridAreaInfo
Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/LinkageActions

URL	/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/LinkageActions
Description	Query linkage action of motion detection
Method	GET
Input Data	None
Success Return Data	LinkageActionList
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/LinkageActions
Description	Set linkage action of motion detection
Method	PUT
Input Data	LinkageActionList
Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/WeekPlan

URL	/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/WeekPlan
Description	Query arming plan of motion detection

Method	GET
Input Data	None
Success Return Data	WeekPlanInfo
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Alarm/MotionDetection/WeekPlan
Description	Set arming plan of motion detection
Method	PUT
Input Data	WeekPlanInfo
Success Return Data	None
Note	IPC & NVR
Status	

VideoLoss

/LAPI/V1.0/Channels/<ID>/Alarm/VideoLoss/Rule

URL	/LAPI/V1.0/Channels/<ID>/Alarm/VideoLoss/Rule
Description	Query video loss configuring information for certain video input channel
Method	GET
Input Data	None
Success Return Data	VideoLossRuleInfo
Note	NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Alarm/VideoLoss/Rule
Description	Set video loss configuring information for certain video input channel
Method	PUT
Input Data	VideoLossRuleInfo
Success Return Data	None
Note	NVR
Status	

/LAPI/V1.0/Channels/<ID>/Alarm/VideoLoss/LinkageActions

URL	/LAPI/V1.0/Channels/<ID>/Alarm/VideoLoss/LinkageActions
Description	Query linkage action of video loss
Method	GET
Input Data	None

Success Return Data	LinkageActionList
Note	NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Alarm/VideoLoss/LinkageActions
Description	Set linkage action of video loss
Method	PUT
Input Data	LinkageActionList
Success Return Data	None
Note	NVR
Status	

/LAPI/V1.0/Channels/<ID>/Alarm/VideoLoss/WeekPlan

URL	/LAPI/V1.0/Channels/<ID>/Alarm/VideoLoss/WeekPlan
Description	Query arming plan of video loss
Method	GET
Input Data	None
Success Return Data	WeekPlanInfo
Note	NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Alarm/VideoLoss/WeekPlan
Description	Set arming plan of video loss
Method	PUT
Input Data	WeekPlanInfo
Success Return Data	None
Note	NVR
Status	

TamperDetection

/LAPI/V1.0/Channels/<ID>/Alarm/TamperDetection/Rule

URL	/LAPI/V1.0/Channels/<ID>/Alarm/TamperDetection/Rule
Description	Query the configuration of tamper detection for certain video input channel
Method	GET
Input Data	None
Success Return Data	TamperDetectionRuleInfo

Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Alarm/TamperDetection/Rule
Description	Set the configuration of tamper detection for certain video input channel
Method	PUT
Input Data	TamperDetectionRuleInfo
Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Alarm/TamperDetection/LinkageActions

URL	/LAPI/V1.0/Channels/<ID>/Alarm/TamperDetection/LinkageActions
Description	Query linkage action of tamper detection
Method	GET
Input Data	None
Success Return Data	LinkageActionList
Note	IPC & NVR 支持。
Status	

URL	/LAPI/V1.0/Channels/<ID>/Alarm/TamperDetection/LinkageActions
Description	Set linkage action of tamper detection
Method	PUT
Input Data	LinkageActionList
Success Return Data	None
Note	The linkage action of occlusion detection doesn't support snapshot and alarm frame IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Alarm/TamperDetection/WeekPlan

URL	/LAPI/V1.0/Channels/<ID>/Alarm/TamperDetection/WeekPlan
Description	Query arming plan of tamper detection
Method	GET
Input Data	None

Success Return Data	WeekPlanInfo
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Alarm/TamperDetection/WeekPlan
Description	Set arming plan of tamper detection
Method	PUT
Input Data	WeekPlanInfo
Success Return Data	None
Note	IPC & NVR
Status	

IO

Json Block

InputSwitchBasciInfo

InputSwitchDetailInfo
Json Block
	{
	"ID": ,
	"Name": ,
	"Status": ,
	"GBID": ,
	“VMSCommon”: ,
	"RunMode": ,
	"Enabled":
	}

Param	Requirement	Type	Description	Example
ID	M	unsigned long	Alarm in channel ID for NVR, the value is video channel ID*100+alarm output serial number, Equipment channel ID is 0, for VMS, the value is serial number of equipment itself	1
Name	C	string	channel name String length range [1,64] NVR not supportive	"IP Camera 01"

Status	C	unsigned long	channel status 0:offline 1:online for VMS use	0
GBID	C	string	GB resourses ID string length range [0,20] VMS & IPC supportive	"34000000002000000010"
VMSCommon	C	Json Block	VMS common information	具体见 VMSCommon Json Block
RunMode	M	unsigned long	alarm type 1: Normally open 2: Normally closed	1
Enabled	M	boolean	whether enabled alarm 0:disabled 1:enabled	1

InputSwitchBasicInfoList

InputSwitchBasicInfoList Json Block	{
	"Num": ,
	"BasicInfos":[<InputSwitchBasicInfo>,.....]
	}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	number of alarm input channel	4
BasicInfos	C	array	alarm input channel detailed information list This node is optional when Num is 0	-
InputSwitchBasicInfo	M	Json Block	for more details on alarm input channel, please refer to InputSwitchBasicInfo Json Block	-

OutputSwitchBasicInfo

OutputSwitchBasicInfo	{

Json Block	"ID": , "Name": , "Status": , “VMSCommon”: , "RunMode": , "Duration": }

Param	Requirement	Type	Description	Example
ID	M	unsigned long	alarm outchannel ID for NVR, the value is video channel ID*100+alarm output serial number, Equipment channel ID is 0, for VMS, the value is serial number of equipment itself	1
Name	C	string	channel name String length range [1,64] NVR not supportive	"O_AlarmOutput_2"
Status	C	unsigned long	channel status 0:offline 1:online needed forVMS	0
VMSCommon	C	Json Block	VMS common information	See VMSCommon Json Block
RunMode	M	unsigned long	alarm type 1:always on 2:always off	1
Duration	M	unsigned long	duration time for NVR, VMS and conventional camera, range [5,3600], unit: second for License Plate Capture Camera, range [500,3600000], unit: millisecond for Smart camera, range [1,3600], unit: second All ranges list above should convert to millisecond	6

OutputSwitchBasicInfoList

OutputSwitchBasicInfoList Json Block	{
	"Num": ,
	"BasicInfos":[<OutputSwitchBasicInfo>,.....]
	}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	number of alarm output channel	4
BasicInfos	C	array	alarm output channel detailed information list This node is optional when Num is 0	-
OutputSwitchBasicInfo	M	Json Block	for more details on alarm output channel, please refer to OutputSwitchBasicInfo Json Block	-

SetOutputSwitchManualAlarmList

SetOutputSwitchManualAlarmList Json Block	{
	"Num": ,
	"IDs": [<ID>, ...],
	"AlarmAction":
	}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	channel number of alarm out with change of alarm status	4
IDs	C	array	alarm out ID list This node is optional when Num is 0	-
ID	M	unsigned long	alarm out ID for NVR, the value is video channel ID*100+alarm output serial number,	1

			Equipment channel ID is 0, for VMS, the value is serial number of equipment itself	
AlarmAction	M	unsigned long	alarm action 0:alarm disabled 1:alarm enabled	1

OutputSwitchStatus

OutputSwitchStatus Json Block	{
	"ID": ,
	"Status":
	}

Param	Requirement	Type	Description	Example
ID	M	unsigned long	the value is channel ID*100+alarm output serial number, Equipment channel ID is 0, e.g. : the first ID of switch value of IPC:0*100+1=1	1
Status	M	unsigned long	switch value output status 0:off, closed circuit 1:on, open circuit	0

OutputSwitchStatusList

OutputSwitchStatusList Json Block	{
	"Nums":,
	"Statuses":[<OutputSwitchStatus>, <OutputSwitchStatus>...]
	}

Param	Requirement	Type	Description	Example
Nums	M	unsigned long	number of alarm out	1
Statuses	C	array	list of alarm out, this field is optional when Num is 0	-
OutputSwitchStatus	M	Json Block	for more details on output switch value, please refer to OutputSwitchStatus Json Block	-

OutputSwitchAlarmStatusList

OutputSwitchAlarmStatusList Json Block	{
	"Num": ,
	"AlarmStatusList": [<AlarmStatusInfo>, ...]
	}

Param	Ranger	Type	Description	Example
Num	M	unsigned long	channel number of equipment alarm output	1
AlarmStatusList	C	array	alarm status list of alarm out port this field is optional when Num is 0	-
AlarmStatusInfo	C	Json Block	for more details on output switch value alarm status list, please refer to AlarmStatusInfo Json Block	-

AlarmStatusInfo

AlarmStatusInfo Json Block	{
	"ID": ,
	"AlarmStatus":
	}

Param	Ranger	Type	Description	Example
ID	M	unsigned long	alarm out ID for NVR, the value is video channel ID*100+alarm output serial number, Equipment channel ID is 0, for VMS, the value is serial number of equipment itself	1
AlarmStatus	M	unsigned long	alarm status of alarm out 0:alarm disabled 1:alarm enabled	1

InputSwitch

/LAPI/V1.0/IO/InputSwitches/BasicInfos?[DevID=<DevID>]&[OrgID=<OrgID>]

URL	/LAPI/V1.0/IO/InputSwitches/BasicInfos?[DevID=<DevID>]&[OrgID=<OrgID>]
Description	Query multiple alarm input channels detailed information list
Method	GET
Input Data	None
Success Return Data	InputSwitchBasicInfoList
Note	IPC & NVR & VMS
Status	

Param	Requirement	Type	Description	Example
DevID	0	unsigned long	device id blank means get all equipments channels for VMS use	21
OrgID	0	unsigned long	organization ID blank means get channels under all organizations for VMS use	55

/LAPI/V1.0/IO/InputSwitches/<ID>/BasicInfos

URL	/LAPI/V1.0/IO/InputSwitches/<ID>/BasicInfos
Description	Query specific alarm input channel detailed information
Method	GET
Input Data	None
Success Return Data	InputSwitchBasicInfo
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/IO/InputSwitches/<ID>/BasicInfos
Description	Set specific alarm input channel detailed information
Method	PUT
Input Data	InputSwitchBasicInfo
Success Return Data	None

Note	IPC & NVR
Status	

Param	Requirement	Type	Description	Example
ID	M	unsigned long	alarm input channel ID for NVR, the value is video channel ID*100+alarm input serial number, Equipment channel ID is 0, for VMS, the value is serial number of alarm input VMS has itself	108

/LAPI/V1.0/IO/InputSwitches/<ID>/LinkageActions

URL	/LAPI/V1.0/IO/InputSwitches/<ID>/LinkageActions
Description	Query the linkage action of alarm input port
Method	GET
Input Data	None
Success Return Data	LinkageActionList
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/IO/InputSwitches/<ID>/LinkageActions
Description	Set the linkage action of alarm input port
Method	PUT
Input Data	LinkageActionList
Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/IO/InputSwitches/<ID>/WeekPlan

URL	/LAPI/V1.0/IO/InputSwitches/<ID>/WeekPlan
Description	Query the arming plan of alarm input port
Method	GET
Input Data	None
Success Return Data	WeekPlanInfo
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/IO/InputSwitches/<ID>/WeekPlan
Description	Set the arming plan of alarm input port
Method	PUT
Input Data	WeekPlanInfo
Success Return Data	None
Note	IPC & NVR
Status	

OutputSwitch

/LAPI/V1.0/IO/OutputSwitches/BasicInfos?[DevID=<DevID>]&[OrgID=<OrgID>]

URL	/LAPI/V1.0/IO/OutputSwitches/BasicInfos?[DevID=<DevID>]&[OrgID=<OrgID>]
Description	Query multiple alarm output channels detailed information list
Method	GET
Input Data	None
Success Return Data	OutputSwitchBasicInfoList
Note	IPC & NVR & VMS
Status	

Param	Requirement	Type	Description	Example
DevID	0	unsigned long	device id blank means get all equipments channels for VMS use	21
OrgID	0	unsigned long	organization ID blank means get channels under all organizations for VMS use	55

/LAPI/V1.0/IO/OutputSwitches/<ID>/BasicInfos

URL	/LAPI/V1.0/IO/OutputSwitches/<ID>/BasicInfos
Description	Query alarm output channel detailed information
Method	GET

Input Data	None
Success Return Data	OutputSwitchBasicInfo
Note	IPC & NVR & VMS
Status	

URL	/LAPI/V1.0/IO/OutputSwitches/<ID>/BasicInfos
Description	Set alarm output channel detailed information
Method	PUT
Input Data	OutputSwitchBasicInfo
Success Return Data	None
Note	IPC & NVR
Status	

Param	Requirement	Type	Description	Example
ID	M	unsigned long	alarm output channel ID	99

/LAPI/V1.0/IO/OutputSwitches/<ID>/WeekPlan

URL	/LAPI/V1.0/IO/OutputSwitches/<ID>/WeekPlan
Description	Query arming plan of equipment itself or accessed equipment for output switch value
Method	GET
Input Data	None
Success Return Data	WeekPlanInfo
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/IO/OutputSwitches/<ID>/WeekPlan
Description	Set arming plan of equipment itself or accessed equipment for output switch value
Method	PUT
Input Data	WeekPlanInfo
Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/IO/OutputSwitches/ManualAlarm

URL	/LAPI/V1.0/IO/OutputSwitches/ManualAlarm
Description	used to manual launch or pause output switch value alarm
Method	PUT
Input Data	SetOutputSwitchManualAlarmList
Success Return Data	None
Note	NVR & VMS
Status	

/LAPI/V1.0/IO/OutputSwitches/AlarmStatus

URL	/LAPI/V1.0/IO/OutputSwitches/AlarmStatus
Description	Query logical alarm status of output switch value
Method	GET
Input Data	None
Success Return Data	OutputSwitchAlarmStatusList
Note	IPC & NVR & VMS
Status	

Smart

Json Block

IntrusionDetectionCapInfo

IntrusionDetectionCapInfo Json Block	{
	 " SupportCfg": ,
	 }

Param	Requirement	Type	Description	Example
SupportCfg	M	boolean	Whether supports intrusion detection: 0: No 1: Yes	0

CrossLineDetectionCapInfo

CrossLineDetectionCapInfo Json Block	{
	"SupportCfg":
	}

Param	Requirement	Type	Description	Example
SupportCfg	M	boolean	Whether supports cross line detection: 0: No 1: Yes	0

SmartCapabilities

SmartCapInfo Json Block	{
	"CrossLineDetection": <CrossLineDetectionCapInfo>,
	"IntrusionDetection": <IntrusionDetectionCapInfo> ,
	}

Param	Requirement	Type	Description	Example
IntrusionDetection	M	Json Block	Intrusion detection capability. See IntrusionDetectionCapInfo Json Block for details.	
CrossLineDetection	M	Json Block	Cross line detection capability. See CrossLineDetectionCapInfo Json Block for details.	

SmartWorkingStatusInfo

SmartWorkingStatusInfo Json Block	{
	"EnableNum":,
	"EnableIDList": [<ID>,...],
	"DisableNum":,
	"DisableIDList": [<ID>,...]
	}

Param	Requirement	Type	Description	Example

EnableNum	M	unsigned long	Number of enabled smart functions among all. Remarks: EnableNums+DisableNums=Total number of smart functions	6
EnableIDList	M	array	ID array of enabled smart functions.	[100,101,102,103,104,105]
DisableNum	M	unsigned long	Number of disabled smart functions among all. Remarks: EnableNums+DisableNums=Total number of smart functions	11
DisableIDList	M	array	ID array of disabled smart functions	[0, 1, 2, 3, 4, 200, 201, 202, 203, 204, 205]
ID	M	unsigned long	Smart function ID: 0: Face detection 1: People counting 2: Skynet LPR/road monitoring 3: Track 4: Chain calculation (I)/motion detection 100: Cross line detection 101: Intrusion detection 102: Enter area 103: Leave area 104: Loitering detection 105: Quick moving (100-105 are defined as SMART1) 200: People gathering 201: Parking detection; 202: Object left behind 203: Object removed 204: Defocus detection 205: Scene change	1

			206: 206: Heat map (200-206 are defined as SMART2)	

CrossLineDetectionRuleInfo

CrossLineDetectionRuleInfo Json Blcok	{ "Enabled": }

Param	Requirement	Type	Description	Example
Enabled	M	boolean	Whether cross line detection is enabled 0: Disabled 1: Enabled	1

CrossLineDetectionLineInfo

CrossLineDetectionLineInfo Json Block	{ "ID": , "Enabled": , "Sensitivity": , "Direction": , "StartPoint": { "X": , "Y": }, "EndPoint": { "X": , "Y": } }

Param	Requirement	Type	Description	Example
ID	M	unsigned long	Detection area index, starting from 0; up to 4 areas are supported.	1
Enabled	M	boolean	Whether detection area is enabled 0: Disabled	1

			1: Enabled	
Sensitivity	M	unsigned long	Sensitivity, range: [1,100]	1
Direction	M	unsigned long	Direction 0: A < - > B, bi-directional 1: B -> A, from B to A 2: A -> B, from A to B	1
StartPoint	M	Json Block	Coordinate of start point of detection line	
EndPoint	M	Json Block	Coordinate of end point of detection line	
X	M	unsigned long	X-axis coordinate, range: [0,10000]	5000
Y	M	unsigned long	Y-axis coordinate, range: [0,10000]	5000

CrossLineDetectionAreaInfoList

CrossLineDetectionAreaInfoList
Json Block
	{
	"Num": ,
	"LineInfoList": [<CrossLineDetectionLineInfo>,...]
	}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	Max number of areas that user can draw; the default is 4 for cross line detection	4
LineInfoList	C	array	Detection area parameter list; not needed when Num=0.	
CrossLineDetectionLineInfo	M	Json Block	Detection area parameter info. See CrossLineDetectionLineInfo Json Block for details.	

IntrusionDetectionRuleInfo

IntrusionDetectionRuleInfo
Json Blcok
	{
	"Enabled":
	}

Param	Requirement	Type	Description	Example
Enabled	M	boolean	Whether intrusion detection is enabled: 0: Disabled 1: Enabled	1

IntrusionDetectionAreaInfoList

IntrusionDetectionAreaInfoList Json Block	{
	"Num": ,
	"PolygonInfoList": [<IntrusionDetectionPolygonInfo>,...]
	}

Param	Requirement	Type	Description	Example
Num	M	unsigned long	Max number of areas that user can draw; the default is 4 for intrusion detection	4
PolygonInfoList	C	array	Detection area parameter list, not needed when Num=0.	
IntrusionDetectionPolygonInfo	M	Json Block	Detection area parameter info. See IntrusionDetectionPolygonInfo Json Block for details.	

IntrusionDetectionPolygonInfo

IntrusionDetectionPolygonInfo Json Block	{ "ID": , "Enabled": , "Sensitivity": , "Percentage": , "TimeThreshold": , "PointNum": , "PointList": [{

	"X": , "Y": }, …] }

Param	Requirement	Type	Description	Example
ID	M	unsigned long	Detection area index, starting from 0; up to 4 areas are supported.	1
Enabled	M	boolean	Whether detection area is enabled 0: Disabled 1: Enabled	1
Sensitivity	M	unsigned long	Sensitivity, range: [1,100]	1
Percentage	M	unsigned long	Percentage, range: [1,100]	1
TimeThreshold	M	unsigned long	Time threshold value, range: [1,10]	1
PointNum	M	unsigned long	Number of points of polygon detection area; range: [0,6].	4
PointList	C	array	Coordinates of points of detection area; not needed when PointNum=0.	
X	M	unsigned long	X-axis coordinates, range: [0, 10000]	5000
Y	M	unsigned long	Y-axis coordinates, range: [0, 10000]	5000

Capabilities

/LAPI/V1.0/Channels/<ID>/Smart/Capabilities

URL	/LAPI/V1.0/Channels/<ID>/Smart/Capabilities
Description	Query channel's smart capability.
Method	GET

Input Data	None
Success Return Data	SmartCapabilities
Note	IPC & NVR
Status	

CrossLineDetection

/LAPI/V1.0/Channels/<ID>/Smart/CrossLineDetection/Rule

URL	/LAPI/V1.0/Channels/<ID>/Smart/CrossLineDetection/Rule
Description	Get cross line detection configuration for specified video channel.
Method	GET
Input Data	None
Success Return Data	CrossLineDetectionRuleInfo
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Smart/CrossLineDetection/Rule
Description	Set cross line detection configuration for specified video channel.
Method	PUT
Input Data	CrossLineDetectionRuleInfo
Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Smart/CrossLineDetection/Areas

URL	/LAPI/V1.0/Channels/<ID>/Smart/CrossLineDetection/Areas
Description	Get all cross line detection areas for specified video channel.
Method	GET
Input Data	None
Success Return Data	CrossLineDetectionAreaInfoList
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Smart/CrossLineDetection/Areas
Description	Set all cross line detection areas for specified video channel.
Method	PUT

Input Data	CrossLineDetectionAreaInfoList
Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Smart/CrossLineDetection/Areas/<ID>

URL	/LAPI/V1.0/Channels/<ID>/Smart/CrossLineDetection/Areas/<ID>
Description	Get specified cross line detection area for specified video channel.
Method	GET
Input Data	None
Success Return Data	CrossLineDetectionLineInfo
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Smart/CrossLineDetection/Areas/<ID>
Description	Set specified cross line detection area for specified video channel.
Method	PUT
Input Data	CrossLineDetectionLineInfo
Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Smart/CrossLineDetection/LinkageActions

URL	/LAPI/V1.0/Channels/<ID>/Smart/CrossLineDetection/LinkageActions
Description	Query triggered actions of cross line detection.
Method	GET
Input Data	None
Success Return Data	LinkageActionList
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Smart/CrossLineDetection/LinkageActions
Description	Set triggered action for cross line detection.
Method	PUT
Input Data	LinkageActionList

Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Smart/CrossLineDetection/WeekPlan

URL	/LAPI/V1.0/Channels/<ID>/Smart/CrossLineDetection/WeekPlan
Description	Query arming schedule for cross line detection.
Method	GET
Input Data	None
Success Return Data	WeekPlanInfo
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Smart/CrossLineDetection/WeekPlan
Description	Set arming schedule for cross line detection.
Method	PUT
Input Data	WeekPlanInfo
Success Return Data	None
Note	IPC & NVR
Status	

IntrusionDetection

/LAPI/V1.0/Channels/<ID>/Smart/IntrusionDetection/Rule

URL	/LAPI/V1.0/Channels/<ID>/Smart/IntrusionDetection/Rule
Description	Get intrusion detection configuration for specified video channel.
Method	GET
Input Data	None
Success Return Data	IntrusionDetectionRuleInfo
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Smart/IntrusionDetection/Rule

Description	Set intrusion detection configuration for specified video channel.
Method	PUT
Input Data	IntrusionDetectionRuleInfo
Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Smart/IntrusionDetection/Areas

URL	/LAPI/V1.0/Channels/<ID>/Smart/IntrusionDetection/Areas
Description	Get all intrusion detection areas for specified video channel.
Method	GET
Input Data	None
Success Return Data	IntrusionDetectionAreaInfoList
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Smart/IntrusionDetection/Areas
Description	Set all intrusion detection areas for specified video channel.
Method	PUT
Input Data	IntrusionDetectionAreaInfoList
Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Smart/IntrusionDetection/Areas/<ID>

URL	/LAPI/V1.0/Channels/<ID>/Smart/IntrusionDetection/Areas/<ID>
Description	Get intrusion detection info.
Method	GET
Input Data	None
Success Return Data	IntrusionDetectionPolygonInfo
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Smart/IntrusionDetection/Areas/<ID>
Description	Set intrusion detection info.

Method	PUT
Input Data	IntrusionDetectionPolygonInfo
Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Smart/IntrusionDetection/LinkageActions

URL	/LAPI/V1.0/Channels/<ID>/Smart/IntrusionDetection/LinkageActions
Description	Query triggered action of intrusion detection.
Method	GET
Input Data	None
Success Return Data	LinkageActionList
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Smart/IntrusionDetection/LinkageActions
Description	Set triggered action for intrusion detection.
Method	PUT
Input Data	LinkageActionList
Success Return Data	None
Note	IPC & NVR
Status	

/LAPI/V1.0/Channels/<ID>/Smart/IntrusionDetection/WeekPlan

URL	/LAPI/V1.0/Channels/<ID>/Smart/IntrusionDetection/WeekPlan
Description	Query arming schedule of intrusion detection.
Method	GET
Input Data	None
Success Return Data	WeekPlanInfo
Note	IPC & NVR
Status	

URL	/LAPI/V1.0/Channels/<ID>/Smart/IntrusionDetection/WeekPlan

Description	Set arming schedule for intrusion detection.
Method	PUT
Input Data	WeekPlanInfo
Success Return Data	None
Note	IPC & NVR
Status	