Advantech Energy Solutions

Edgelink Open RESTful API Specification

For Edgelink RESTful Web Service

An.Xin

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RECORD OF CHANGES

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1 Web Service Uniform Interface

1.1 RESTful Web Service Uniform Interface

In REST, resources (a resource is any information that you want to make available to others) are identified by unique URI. User agents (a.k.a. web browsers) only interact with resources using the prescribed HTTP verbs, The main verbs (GET, PUT, POST, and DELETE) are what we call the uniform interface. Resources can be read or written to using the HTTP verbs. GET to read resource, PUT is typically used for modifying an existing resource, POST indicates the desire to perform batch operation, DELETE indicates that a client wishes to delete a resource.

1.2 GET

The GET method means retreive whatever information (in the form of an entity) is identified by the Request-URI. If the Request-URI refers to a data-producing process, it is the produced data which shall be returned as the entity in the response and not the source text of the process, unless that text happens to be the output of the process.

1.3 PUT

PUT can be used when the client is sending data to the the server and the client is determining the URI for the newly created resource.

> *The PUT method requests that the enclosed entity be stored under the supplied Request-URI. If the Request-URI refers to an already existing resource, the enclosed entity SHOULD be considered as a modified version of the one residing on the origin server. If the Request-URI does not point to an existing resource, and that URI is capable of being defined as a new resource by the requesting user agent, the origin server can create the resource with that URI.*

- client must supply the ID
- if the resource exists, ***replace*** it with the inbound data
- if it doesn't exist, **create** a new one (assuming you can do that)

1.4 PATCH

RFC5786 defines the new HTTP/1.1 [RFC2616] method, PATCH, which is used to apply partial modifications to a resource.
PATCH can be used when the client is sending one or more changes to be applied by the the server.

> *The PATCH method requests that a set of changes described in the request entity be applied to*

the resource identified by the Request-URI. The set of changes is represented in a format called a "patch document"...

The point is that PATCH is used to doing some kind of **'partial' update**.

1.5 POST

POST can be used when the client is sending data to the server and the server will decide the URI for the newly created resource.

"The POST method is used to request that the origin server accept the entity enclosed in the request as a new subordinate of the resource identified by the Request-URI in the Request-Line."

This is what most of us think of when we talk about "**creating data**" on a web server.

1.6 Safe and Idempotent

Methods can also have the property of "idempotence" in that (aside from error or expiration issues) the side-effects of N > 0 identical requests is the same as for a single request. The methods GET, HEAD, PUT and DELETE share this property. Also, the methods OPTIONS and TRACE SHOULD NOT have side effects, and so are inherently idempotent.

	Safe?	**Idempotent?**
GET	Y	Y
POST	N	N
PATCH	N	N
PUT	N	Y
DELETE	N	Y

1.7 HTTPS Response Status-Code

[RFC2616] The Status-Code element is a 3-digit integer result code of the attempt to understand and satisfy the request.
The first digit of the Status-Code defines the class of response. The last two digits do not have any categorization role. There are 5 values for the first digit:

- 1xx: Informational - Request received, continuing process

- 2xx: Success - The action was successfully received, understood, and accepted

- 3xx: Redirection - Further action must be taken in order to complete the request

- 4xx: Client Error - The request contains bad syntax or cannot be fulfilled

- 5xx: Server Error - The server failed to fulfill an apparently valid request

The status codes supported by ADAM web server are described below.

Status-Code	Reason-Phrase	Conditions
200	OK	The request succeeded, and that the requested information is in the response. This is the most common status code to receive.
400	Bad Request	The request could not be understood by the server due to malformed syntax. ● The value in Content-length header does not match with the real data length. ● Invalid JOSN objects or format. ● Invalid multipart contents.
403	Forbidden	The server refuses to fulfill the request due to authentication error, such as invalid cookie.
404	Not Found	The requested resource (URI) does not exist on the server.
405	Method Not Allowed	The request method (POST or GET) is not allowed on the requested resource.
411	Length Required	The required Content-length header is missing.
500	Internal Server Error	Memory access errors occurred on the server when processed the file uploaded by client. Fail to reply the JSON-format message due to out of buffer size, or others.
503	Service Unavailable	The login list is full.

2 Web Service API Definition

2.1 URLOverview

URI			HTTP Methods				Description	Applicable
			GET	PUT	PATCH	POST		
/ data			☑				The entry URI for user's HTML	Edgelink device series
/sys/log_in				☑			Log in for update data	
/sys/log_out				☑			Log out	
/sys/version			☑				Get all versions on device	
/sys/file_verify			☑				Get upload file total size and total count, and each file size and file name	
/sys/upload						☑	Upload files for update	
/sys/update						☑	Firmware update	
/sys/update_info			☑				Get info in the process of update	
/sys/log_create						☑	Start to get syslog messages	
/sys/log_message			☑				Get syslog messages	
/sys/control					☑		Calibration, restart	
/sys/net_basic	**/lan**	**/id_*x***	☑	☑			Get and config network information	
	/wlan	**/id_0**	☑	☑			Get and config wlan device	
	/cellular		☑	☑			Config cellular module parameters	
		/status	☑				Get cellular working status	
		/gps	☑		☑		Get and set GPS function	
/data/tags	**/value**		☑	☑			Tag value acquisition	
	/quality		☑	☑			Tag quality acquisition	
	/timestamp		☑	☑			Tag timestamp acquisition	
	/name		☑				Tag name acquisition	
	/readwrite		☑				Tag read-write property acquisition	

	/type		☑				Tag type acquisition	
/data/cellular_info	**/value**		☑					
	/quality		☑					
	/timestamp		☑					
/data/di_value	**/slot_*x***	**/ch_*x***	☑	☑			Data values of digital input channels	
/data/do_value	**/slot_*x***	**/ch_*x***	☑	☑			Data values of digital output channels	
/data/ai_value	**/slot_*x***	**/ch_*x***	☑	☑			Data values of analog output channels	
/data/ao_value	**/slot_*x***	**/ch_*x***	☑	☑			Data values of analog input channels	
/data/device_info	**/slot_*x***		☑		☑		Device information, such as module name, firmware version, time, date	
/data/datalogger			☑		☑		Datalogger query	

Note: *1. All method (GET/ PUT/POST/PATCH) must be used with cookie, seen in 2.10.1 Log in chapter.
*2. All HTTP requests need including ‘Referer’ in HTTP Header, the value of ‘Referer’ should be IP address for request.

2.2 Device Information

/data/device_info/slot_index

Description	Retrieves the device information including the I/O module slots.
URL Structure	**https://{ip address}/data/device_info** **https://{ip address}/data/device_info /slot_index** **where index = 0: the on-board module** **1 ~: the identifier of I/O extension slot**
HTTP Method	GET：Returns the representation of all I/O module slots information resource. PATCH: Set date/time/timezone.

GET	Multi Slot Request：
	GET / data/device_info
	Single Slot Request：
	GET / data/device_info /slot_index
	
	[Example]:
	● Request: **GET / data/device_info**
	
	Content-type: application/json
	Response: 200 OK
	{
	"slot_0": {
	"SL": 0,
	"Id": "ADAM-3600-C2GL1A1E",
	"DIn": 8,
	"DOn": 4,
	"AIn": 8,
	"AOn": 0,
	"FwVer": "01010168",
	"Tm": "2016-04-07T03:34:36+08:00",
	"Tz": "/Asia/Shanghai"
	},
	"slot_1": {
	"SL": 1,
	"Id": "ADAM-3617",
	"DIn": 0,
	"DOn": 0,
	"AIn": 4,
	"AOn": 0,
	"FwVer": "01010170"

	},
	"slot_2": {
	"SL": 2,
	"Id": "ADAM-3618",
	"DIn": 0,
	"DOn": 0,
	"AIn": 4,
	"AOn": 0,
	"FwVer": "01010173"
	},
	"slot_4": {
	"SL": 4,
	"Id": "ADAM-3624",
	"DIn": 0,
	"DOn": 0,
	"AIn": 0,
	"AOn": 4,
	"FwVer": "01010176"
	}
	}
	
	● Request: **GET /data/device_info/slot_0**
	
	Content-type: application/json
	Response: 200 OK
	{
	"SL":0,
	"Id": "ADAM-3600-C2GL1A1E",
	"DIn": 8,
	"DOn": 4,
	"AIn": 8,
	"AOn": 0,
	"FwVer": "01010168",
	"Tm": "2016-04-07T03:38:29+08:00",
	"Tz": "/Asia/Shanghai"
	}

PUT	None
POST	None
PATCH	Request：**PATCH /data/device_info/slot_0** [Example]: ● Request: **PATCH /data/device_info/slot_0**, configure time/date/time zone. Content-type: application/json

	{
	"Tm": "2016-04-07T03:38:29+08:00",
	"Tz": "/Asia/Shanghai"
	}
	
	Response: 200 OK

- Resource value definitions:

Field	Abbreviation	Data Type	Property	Description
Slot Number	SL	Number	R	0, 1 ~: Slot number.
Model ID	Id	String	R	Model ID. For example, "ADAM-3600-C2GL1A1E" slot_0: core module "ADAM-3617" slot_1 ~: extension slots "ADAM-3656" slot_1 ~: extension slots
Total DI Number	DIn	Number	R	0, 1 ~: Digital input channel number.
Total DO Number	DOn	Number	R	0, 1 ~: Digital output channel number.
Total AI Number	AIn	Number	R	0, 1 ~: Analog input channel number.
Total AO Number	Aon	Number	R	0, 1 ~: Analog output channel number.
Firmware Version	FwVer	String	R	Version information of main firmware image.
Local Time and Date	Tm	String	RW	Note: Only for slot_0 (on board device) Following ISO 8601 which is endorsed by W3C ar RFC 3339. Complete date plus hours, minutes and seconds: YYYY-MM-DDThh:mm:ssTZD where: YYYY = four-digit year MM = two-digit month (01=January, etc.) DD = two-digit day of month (01 through 3 hh = two digits of hour (00 through 2 (am/pm NOT allowed) mm = two digits of minute (00 through 59) ss = two digits of second (00 through 59) TZD = time zone designator (Z or +hh:mm or hh:mm) For example, **"1994-11-05T08:15:30-05:00"** corresponds

				November 5, 1994, 8:15:30 am, US Eastern Standa Time.
Time zone	Tz	String	RW	Note: Only for slot_0 (on board device) /Asia/Shanghai.
Remarks				

2.3 Device Control

/ sys / control

2.3.1 Restart

/ sys / control/rst

Description	The system can be controlled by command objects.
URL Structure	**https://{ip address}/sys/control/rst**
HTTP Method	PATCH：Send the control command to module.
GET	None
PUT	None
POST	None

PATCH	Request：**PATCH /sys/control/rst**
	
	[Example]:
	● Request: **PATCH /sys/control**, Restart the module.
	Content-type: application/json
	{
	"Rst":"1"
	}
	
	Response: 200 OK

● Resource value definitions:

Field	Abbreviation	Data Type	Property	Description
System Restart	Rst	String	W	1: Restart the system

Remarks	

2.3.2 Calibration

/ sys / control/cali

Description	The system can be controlled by command objects.

URL Structure	**https://{ip address}/sys/control/cali**
HTTP Method	PATCH：Send the control command to module.
GET	None
PUT	None
POST	None

PATCH	Request：**PATCH /sys/control/cali**
	
	[Example]:
	● Request: **PATCH /sys/control/cali**, calibrate the AI/AO module.
	Content-type: application/json
	{
	"Mid":"1",
	"Cid":"1",
	"Rng":"1",
	"Calmd ":"1",
	"Iot ":"1",
	}
	
	Response: 200 OK

● Resource value definitions:

Field	Abbreviation	Data Type	Property	Description
Module Id	Mid	String	W	0~4: Module id
Channel Id	Cid	String	W	0 ~7: Channel id.
Range Code	Rng	String	W	Range code

1	V_Neg10To10
3	V_Neg2pt5To2pt5
7	V_0To10
33	mA_0To20
34	mA_4To20
0x8028	Btype_200To1820C
0x8020	Etype_Neg270To1000C
0x801D	Jtype_Neg210To1200C
0x801E	Ktype_Neg270To1372C
0x8029	Ntype_Neg100To100C
0x8025	Rtype_0To1768C
0x8026	Stype_0To1768C
0x801F	Ttype_Neg270To400C

<table>
<tr><td>Calibration mode</td><td>Calmd</td><td>String</td><td>W</td><td>Calibration mode<table><tr><td>1</td><td>SaveCaliValToFlash</td></tr><tr><td>1</td><td>AoSaveCaliValToFlash</td></tr><tr><td>3</td><td>WriteFacCaliValToUser</td></tr><tr><td>0x5500</td><td>ZeroCalibration</td></tr><tr><td>0xAA00</td><td>SpanCalibration</td></tr><tr><td>0x55</td><td>AoOutputSpanValue</td></tr><tr><td>0xAA</td><td>AoCalibreateSpanValue</td></tr></table></td></tr>
<tr><td>IO type</td><td>Iot</td><td>String</td><td>W</td><td>Range code<table><tr><td>0</td><td>AI</td></tr><tr><td>1</td><td>AO</td></tr></table></td></tr>
<tr><td>Remarks</td><td colspan="4"></td></tr>
</table>

2.4 Analog Input

2.4.1 AI - Data Acquisition

/data/ai_value/slot_index/ch_num

Description	Retrieves information about the analog input value resource on specific slot.
URL Structure	**https://{ip address}/data/ai_value/slot_index** **https://{ip address}/data/ai_value/slot_index/ch_num** **where index = 0: the core module** **1 ~ n: the identifier of I/O extension slot** **where num = 0 ~ n: the channel number**
HTTP Method	GET：Returns the representation of all analog input value resource. PUT：None PATCH：Apply partial modifications to analog input value resource.
GET	Multi-Channel Request： **GET /data/ai_value/slot_index** Single Channel Request： **GET /data/ai_value/slot_index/ch_num** [Example]: ● Request: **GET /data/ai_value/slot_0** Content-type: application/json Response: 200 OK { "AIVal": [{ "Ch":0, "En":0, "Rng":1, "Val":32765, "Eg":0, "Evt":0, "LoA": 0, "HiA": 0, "HVal":0, "HEg":0, "LVal":0, "LEg":0, "SVal":0,

```
      "ClrH": 0,
      "ClrL": 0
    },
    {
      "Ch":1,
      "En":0,
      "Rng":1,
      "Val":32765,
      "Eg":0,
      "Evt":0,
      "LoA":0,
      "HiA":0,
      "HVal":0,
      "HEg":0,
      "LVal":0,
      "LEg":0,
      "SVal":0,
      "ClrH": 0,
      "ClrL": 0
    },
    {
      "Ch":2,
      "En":0,
      "Rng":1,
      "Val":32765,
      "Eg":0,
      "Evt":0,
      "LoA":0,
      "HiA":0,
      "HVal":0,
      "HEg":0,
      "LVal":0,
      "LEg":0,
      "SVal":0,
      "ClrH": 0,
      "ClrL": 0
    },
    {
      "Ch":3,
      "En":0,
      "Rng":1,
      "Val":32765,
      "Eg":0,
      "Evt":0,
```

	"LoA":0,
	"HiA":0,
	"HVal":0,
	"HEg":0,
	"LVal":0,
	"LEg":0,
	"SVal":0,
	"ClrH": 0,
	"ClrL": 0
	},
	{
	"Ch":4,
	"En":0,
	"Rng":1,
	"Val":32765,
	"Eg":0,
	"Evt":0,
	"LoA":0,
	"HiA":0,
	"HVal":0,
	"HEg":0,
	"LVal":0,
	"LEg":0,
	"SVal":0,
	"ClrH": 0,
	"ClrL": 0
	}
	]
	}
	
	● Request: **GET /data/ai_value/slot_0/ch_2**
	
	Content-type: application/json
	Response: 200 OK
	{
	"Ch":2,
	"En":0,
	"Rng":1,
	"Val":32765,
	"Eg":0,
	"Evt":0,
	"LoA":0,
	"HiA":0,
	"HVal":0,

<table>
<tr><td></td><td>"HEg":0,
"LVal":0,
"LEg":0,
"SVal":0,
"ClrH": 0,
"ClrL": 0
}</td></tr>
<tr><td>PUT</td><td>Single Channel Request:
PUT /data/ai_value/slot_index/ch_num

[Example]:
● Request: PUT /data/ai_value/slot_0/ch_3
Content-type: application/json
{
"Rng":"1"
}

Response: 200 OK</td></tr>
<tr><td>POST</td><td>None</td></tr>
<tr><td>PATCH</td><td>None</td></tr>
</table>

● JSON array name definition:

Field	Abbreviation	Data Type
Array of Analog input configurations	AIVal	Array

● Resource value definitions (Total channels = AI channel number + 1 average channel):

Field	Abbreviation	Data Type	Property	Description
Channel Number	Ch	Number	R	0, 1, …: Analog input channel number. Note for the average channel: The average channel number for a 4-ch AI module is 4.
Input Range	Rng	Number	RW	Analog input range. Range code: 1 = +/- 10 V; 3 = +/- 2.5 V; 33 = 4 ~ 20 mA; 34 = 0 ~ 20 mA
Channel Enable	En*	Number	R	1 / 0: Enable / Disable AI conversion Notice: Average channel is read only. When channel mask of average is not 0, the value is 1.
Channel Raw Value	Val	Number	R	0 ~ 65535 :AI measurement data (Raw data)
Channel Engineering	Eg*	Number	R	AI engineering data, the value is 1/1000 scale.

data				For example, 1630 → 1.63
Channel Event Status	Evt	Number	R	AI statuses
Low Alarm Status	LoA*	Number	R	Low alarm status Read 1 : low alarm occurred. 0 : not occurred Write 0 : clear the low alarm status
High Alarm Status	HiA*	Number	R	High alarm status Read 1 : high alarm occurred. 0 : not occurred Write 0 : clear the high alarm status
Maximum AI Raw Value	HVal*	Number	R	AI max. measurement data (Raw data)
Maximum AI Engineering data	HEg*	Number	R	AI max. engineering data, the value is 1/1000 scale For example, 10200→10.2
Minimum AI Raw Value	LVal*	Number	R	AI min. measurement data (Raw data)
Minimum AI Engineering data	Leg*	Number	R	AI min. engineering data, the value is 1/1000 scale For example, 250 → 0.25
Channel Raw Value After Scaling	SVal*	Number	R	0 ~ 65535 : AI measurement data (Raw data) after scaling
Clear Maximum AI Value	ClrH*	Number	R	1 : Clear the Maximum AI value
Clear Minimum AI Value	ClrL*	Number	R	1 : Clear the Minimum AI value
Remarks	*：Unused in Edgelink devices, just keep consistent with other products.			

2.5 Analog output

2.5.1 AO - Data Acquisition

/data/ao_value/slot_index/ch_num

Description	Retrieves information about the analog input value resource on specific slot.
URL Structure	**https://{ip address}/data/ao_value/slot_index** **https://{ip address}/data/ao_value/slot_index/ch_num** **where index = 0: the core module** **1 ~ n: the identifier of I/O extension slot** **where num = 0 ~ n: the channel number**
HTTP Method	GET：Returns the representation of all analog output value resource. PUT：None PATCH：Apply partial modifications to analog input value resource.
GET	Multi-Channel Request： **GET /data/ao_value/slot_index** Single Channel Request： **GET /data/ao_value/slot_index/ch_num** [Example]: ● Request: **GET /data/ao_value/slot_0** Content-type: application/json Response: 200 OK { "AIVal": [{ "Ch":0, "Rng":1, "Val":148, }, { "Ch":1, "Rng":1, "Val":0, }, { "Ch":2, "Rng":1, "Val":0,

<table>
<tr><td></td><td>
<pre>
        },
        {
            "Ch":3,
            "Rng":1,
            "Val":0,
        }
    ]
}
</pre>
Request: GET /data/ao_value/slot_0/ch_2
Content-type: application/json
Response: 200 OK
<pre>
{
        "Ch":2,
        "Rng":328,
        "Val":0,
}
</pre>
</td></tr>
<tr><td>PUT</td><td>Single Channel Request：
PUT /data/ao_value/slot_index/ch_num

[Example]:
Request: PUT /data/ao_value/slot_0/ch_3
Content-type: application/json
<pre>
{
        "Rng":"1",
}
{
         "Val": "65535",
}
</pre>
Response: 200 OK</td></tr>
<tr><td>POST</td><td>None</td></tr>
<tr><td>PATCH</td><td>None</td></tr>
<tr><td colspan="2">
JSON array name definition:
<table>
<tr><th>Field</th><th>Abbreviation</th><th>Data Type</th></tr>
<tr><td>Array of Analog input configurations</td><td>AOVal</td><td>Array</td></tr>
</table>
Resource value definitions (Total channels = AO channel number + 1 average channel):
<table>
<tr><th>Field</th><th>Abbreviation</th><th>Data Type</th><th>Property</th><th>Description</th></tr>
<tr><td>Channel Number</td><td>Ch</td><td>Number</td><td>R</td><td>0, 1, …: Analog output channel number.
Note for the average channel:
The average channel number for a 4-ch AI module is 4.</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><td>Input Range</td><td>Rng</td><td>Number</td><td>RW</td><td>Analog input range.<table><tr><td>Range code</td><td></td></tr><tr><td>7</td><td>0~ 10 V</td></tr><tr><td>33</td><td>4 ~ 20 mA</td></tr><tr><td>34</td><td>0 ~ 20 mA</td></tr></table></td></tr>
<tr><td>Channel Raw Value</td><td>Val</td><td>Number</td><td>RW</td><td>0 ~ 65535: AO data (Raw data)</td></tr>
<tr><td>Remarks</td><td colspan="4"></td></tr>
</table>

2.6 Digital input

2.6.1 DI - Data Acquisition

/data/di_value/slot_index/ch_num

Description	Retrieves information about the digital input value resource on specific slot.
URL Structure	**https://{ip address}/data/di_value/slot_index** **https://{ip address}/ data/di_value/slot_index/ch_num** **where index = 0: the core module** **1 ~: the identifier of I/O extension slot** **where num = 0 ~: the channel number**
HTTP Method	GET：Returns the representation of all digital input value resource. PUT：Replace all digital input value resource PATCH：Apply partial modifications to digital input value resource.
GET	Multi-channel Request： **GET /data/di_value/slot_index** Single Channel Request： **GET /data/di_value/slot_index/ch_num** [Example]: ● Request: **GET /data/di_value/slot_0** Content-type: application/json Response: 200 OK { "DIVal": [{ "Ch":0, "Md":0, "Stat":1, "Val":1, "Cnting":0, "ClrCnt":0, "OvLch": 0 }, { "Ch":1, "Md":0,

<table>
<tr><td></td><td>
<pre>
        "Stat":0,
        "Val":0,
        "Cnting":0,
        "ClrCnt":0,
        "OvLch": 0
    },
    {
        "Ch":2,
        "Md":0,
        "Stat":0,
        "Val":0,
        "Cnting":1,
        "ClrCnt":0,
        "OvLch": 0
    },
    {
        "Ch":3,
        "Md":0,
        "Stat":0,
        "Val":1,
        "Cnting":0,
        "ClrCnt":0,
        "OvLch": 0
    }
  ]
}
</pre>
Request: GET /di_value/slot_0/ch_2
Content-type: application/json
Response: 200 OK
<pre>
{
        "Ch":2,
        "Md":0,
        "Stat":1,
        "Val":1,
        "Cnting":0,
        "ClrCnt":0,
        "OvLch": 0
}
</pre>
</td></tr>
<tr><td>PUT</td><td>Single Channel Request：
PUT /data/di_value/slot_index/ch_num</td></tr>
</table>

	[Example]:
	● Request: **PUT /data/di_value/slot_0/ch_2**
	Content-type: application/json
	{
	"Md":"1",
	}
	Response: 200 OK
	{
	"Cnting":"1",
	}
	Response: 200 OK

POST	None
PATCH	None

● JSON array name definition:

Field	Abbreviation	Data Type
Array of Digital input configurations	DIVal	Array

● Resource value definitions:

Field	Abbreviation	Data Type	Property	Description
Channel Number	Ch	Number	R	0, 1, …: Digital input channel number.
Mode	Md	Number	RW	Digital input mode. 0 DI 1 Counter
Signal Logic Status	Stat	Number	R	1, 0: Input signal is Logic High or Low.
Channel Value	Val	Number	R	DI measurement data Input Mode: Value Description DI: Logic status of DI Counter: Counter value
Start Counter	Cnting	Number	RW	Start/Stop counter counting Read 1: counter is counting 0: not counting Write 1: start counting 0: stop counting
Clear Counter	ClrCnt	Number	W	1: Clear the counter value
Get/Clear Counter Overflow or Latch Status	OvLch*	Number	RW	counter overflow or latch status Read 1: overflow/latch occurred. 0: no overflow or latch Write 0: clear the overflow or latch status

Remarks	*: Unused in Edgelink devices, just keep consistent with other products.

2.7 Digital output

2.7.1 DO - Data Acquisition

/data/do_value/slot_index/ch_num

Description	Retrieves information about the digital input value resource on specific slot.
URL Structure	**https://{ip address}/data/do_value/slot_index** **https://{ip address}/data/do_value/slot_index/ch_num** **where index = 0: the core module** **1 ~n: the identifier of I/O extension slot** **where num = 0 ~n: the channel number**
HTTP Method	GET：Returns the representation of all digital output value resource. PUT：Replace all digital output value resource PATCH：Apply partial modifications to digital output value resource.
GET	Multi-Channel Request： **GET /data/do_value/slot_index** Single Channel Request： **GET /data/do_value/slot_index/ch_num** [Example]: ● Request: **GET /data/do_value/slot_0** Content-type: application/json Response: 200 OK { "DOVal": [{ "Ch":0, "Md":0, "Stat":1, "Val":1, "PsCtn":0, "PsStop":0, "PsLo": 5000, "PsHi": 5000, "PsIV": 0 }, { "Ch":1, "Md":0,

	"Stat":0,
	"Val":0,
	"PsCtn":0,
	"PsStop":0,
	"PsLo": 5000,
	"PsHi": 5000,
	"PsIV": 0
	},
	{
	"Ch":2,
	"Md":0,
	"Stat":0,
	"Val":0,
	"PsCtn":0,
	"PsStop":0,
	"PsLo": 5000,
	"PsHi": 5000,
	"PsIV": 0
	},
	{
	"Ch":3,
	"Md":0,
	"Stat":0,
	"Val":1,
	"PsCtn":0,
	"PsStop":0,
	"PsLo": 5000,
	"PsHi": 5000,
	"PsIV": 0
	}
	]
	}
	
	● Request: **GET /data/do_value/slot_0/ch_2**
	
	Content-type: application/json
	Response: 200 OK
	{
	"Ch":2,
	"Md":0,
	"Stat":1,
	"Val":1,
	"PsCtn":0,
	"PsStop":0,

	"PsLo": 5000, "PsHi": 5000, "PsIV": 0 }

PUT	Single Channel Request:
	PUT /data/do_value/slot_index/ch_num
	[Example]:
	● Request: **PUT /data/do_value/slot_0/ch_2**
	Content-type: application/json
	{
	"Md":"0",
	}
	Response: 200 OK
	
	{
	"Val":"0",
	}
	
	Response: 200 OK

POST	None
PATCH	None

● JSON array name definition:

Field	Abbreviation	Data Type
Array of Digital input configurations	DOVal	Array

● Resource value definitions:

Field	Abbreviation	Data Type	Property	Description
Channel Number	Ch	Number	R	0, 1, …: Digital output channel number.
Mode	Md	Number	RW	Digital output mode. 0 DO 1 Pulse Output
Signal Logic Status	Stat	Number	R	1, 0: Output signal is Logic High or Low.
Channel Value	Val	Number	RW	DO measurement data

Output Mode	Value Description
DO	Get the current signal status or set its status
Pulse Output	Get or set the absolute pulse count value 0-2^{32}

Pulse Output Continue State	PsCtn	Number	RW	1 / 0: Pulse outputting is continuous or not. Write 1: start pulse out 0: stop pulse out
Stop Pulse Output	PsStop*	Number	W	1: Stop the pulse outputting. (Continue is disabled, Absolute and incremental values are reset to zero. DO signal status is set to logic low.)
Low Signal Width	PsLo	Number	RW	Low signal width of pulse 1 - 65535 (0.1 ms)
High Signal Width	PsHi	Number	RW	High signal width of pulse 1 - 65535 (0.1 ms).
Incremental Pulse Output Value	PsIV*	Number	RW	Incremental Pulse Output Value
Remarks	*：Unused in Edgelink devices, just keep consistent with other products.			

2.8 Tag Information

2.8.1 Tag - Data Acquisition

`/data/tags`

Description	Retrieves information about the system tag resource on edgelink device.
URL Structure	**https://{ip address}/data/tags**
HTTP Method	GET：Returns the representation of all of tags resources include value, quality, and timestamp

GET	Multi-Tag Request：
	GET / data/tags
	
	[Example]:
	● Request: GET /data/tags
	Content-type: application/json
	Response: 200 OK
	{
	"#SYS_UPTIME": {
	"name": "#SYS_UPTIME",
	"type": "System Tag",
	"value": "298",
	"quality": "0000H",
	"timestamp": "1670204923.768992",
	"readwrite": "1"
	},
	"#SYS_CURRENT_TIME": {
	"name": "#SYS_CURRENT_TIME",
	"type": "System Tag",
	"value": "1670204923",
	"quality": "0000H",
	"timestamp": "1670204923.769002",
	"readwrite": "1"
	},
	"#SYS_CPU_FREQ": {
	"name": "#SYS_CPU_FREQ",
	"type": "System Tag",
	"value": "597600000",
	"quality": "0000H",
	"timestamp": "1670204689.725974",
	"readwrite": "1"

```
},
"#SYS_MEM_SIZE": {
   "name": "#SYS_MEM_SIZE",
   "type": "System Tag",
   "value": "242.68 MB",
   "quality": "0000H",
   "timestamp": "1670204689.726412",
   "readwrite": "1"
},
"#SYS_CPU_USED": {
   "name": "#SYS_CPU_USED",
   "type": "System Tag",
   "value": "8.01%",
   "quality": "0000H",
   "timestamp": "1670204923.811514",
   "readwrite": "1"
},
"#SYS_CPU_IOWAIT": {
   "name": "#SYS_CPU_IOWAIT",
   "type": "System Tag",
   "value": "0.01%",
   "quality": "0000H",
   "timestamp": "1670204861.001783",
   "readwrite": "1"
},
"#SYS_MEM_USED": {
   "name": "#SYS_MEM_USED",
   "type": "System Tag",
   "value": "17.41%",
   "quality": "0000H",
   "timestamp": "1670204923.811745",
   "readwrite": "1"
},
"#SYS_SYSCARD_CAPACITY": {
   "name": "#SYS_SYSCARD_CAPACITY",
   "type": "System Tag",
   "value": "908.00 MB",
   "quality": "0000H",
   "timestamp": "1670204689.727537",
   "readwrite": "1"
},
"#SYS_SYSCARD_FREE_SPACE": {
   "name": "#SYS_SYSCARD_FREE_SPACE",
   "type": "System Tag",
```

```
            "value": "204.84 MB",
            "quality": "0000H",
            "timestamp": "1670204689.727581",
            "readwrite": "1"
        },
        "#SYS_DATACARD_CAPACITY": {
            "name": "#SYS_DATACARD_CAPACITY",
            "type": "System Tag",
            "value": "0.00 Bytes",
            "quality": "8004H",
            "timestamp": "1670204689.727635",
            "readwrite": "1"
        },
        "#SYS_DATACARD_FREE_SPACE": {
            "name": "#SYS_DATACARD_FREE_SPACE",
            "type": "System Tag",
            "value": "0.00 Bytes",
            "quality": "8004H",
            "timestamp": "1670204689.727664",
            "readwrite": "1"
        },
        "#SYS_NODE_ID": {
            "name": "#SYS_NODE_ID",
            "type": "System Tag",
            "value": "161",
            "quality": "0000H",
            "timestamp": "1670204689.734325",
            "readwrite": "1"
        },
        ……
}
```


- Request: GET /data/tags/%23SYS_UPTIME
  Content-type: application/json
  Response: 200 OK


```
{
        "name": "#SYS_UPTIME",
        "type": "System Tag",
        "value": "640",
        "quality": "0000H",
        "timestamp": "1670205265.254424",
        "readwrite": "1"
}
```

<table>
<tr><td>PUT</td><td>Set the number of significant digits after the decimal point of double type for tag value:

PUT /data/tags
[Example]:
● Request: PUT /data/tags
Content-type: application/json
{
"digits": 2,
}
Response: 200 OK</td></tr>
<tr><td>POST</td><td>None</td></tr>
<tr><td>PATCH</td><td>None</td></tr>
<tr><td>Note</td><td></td></tr>
</table>

● Resource value definitions:

Field	Abbreviation	Data Type	Property	Description
value	value	String	R	Tag value
type	type	String	R	Tag type: System Tag IO Tag User Tag Calc Tag
quality	quality	String	R	Tag quality. 0000H OK 0001H QLTY_OVER_RANGE 0002H QLTY_UNDER_RANGE 0003H QLTY_OPEN_LOOP 0004H QLTY_SHORTED_LOOP 8001H QLTY_RESTART 8002H QLTY_DRIVER_LOAD_FAILED 8003H QLTY_PORT_OPEN_FAILED 8004H QLTY_DEVICE_ERROR 8005H QLTY_CONVERSION_CODE_ERROR 8006H QLTY_CONVERSION_ERROR 8007H QLTY_DATA_TYPE_ERROR 8008H QLTY_DATA_SIZE_ERROR 8009H QLTY_DATA_ERROR

				800aH QLTY_CHECKSUM_ERROR 800bH QLTY_MSG_SEQ_ERROR 8080H QLTY_NO_OWNER 8081H QLTY_DISCONNECTED 8100H QLTY_DRIVER_SEPCIFIED
timestamp	timestamp	String	R	Tag timestamp
readwrite	readwrite	String	R	Tag Property: 1: read only, 3: read -write
digits	digits	Number	W	The number of significant digits after the decimal point. Range: 0~16.
Remark				

2.8.2 System/User/IO/Calc Tag - Data Acquisition

/data/tags?systag

/data/tags?iotag

/data/tags?usertag

/data/tags?calctag

/data/tags/{tag_name}/name

/data/tags/{tag_name}/type

/data/tags/{tag_name}/value

/data/tags/{tag_name}/quality

/data/tags/{tag_name}/timestamp

/data/tags/{tag_name}/readwrite

Description	Retrieves information about tag resource on edgelink device.

URL Structure	**https://{ip address}/data/tags/{tag_name}/name** **https://{ip address}/data/tags/{tag_name}/type** **https://{ip address}/data/tags/{tag_name}/value** **https://{ip address}/data/tags/{tag_name}/quality** **https://{ip address}/data/tags/{tag_name}/timestamp** **https://{ip address}/data/tags/{tag_name}/readwrite** where **{tag_name}:** tag name defined in DataCenter
HTTP Method	GET：Returns the representation of all io tag, user tag or calc tag resources include value, quality, and timestamp

GET	Multi-Tag Request：
	GET / data/tags?systag
	GET / data/tags?iotag
	GET / data/tags?usertag
	GET / data/tags?calctag
	
	Single Tag Request：
	GET /data/ tags/{tag_name}/
	
	Single Resource Request：
	GET /data/tags{tag_name}/name
	GET /data/tags/{tag_name}/type
	GET /data/tags/{tag_name}/value
	GET /data/tags/{tag_name}/quality
	GET /data/ tags/{tag_name}/timestamp
	GET /data/ tags{tag_name}/readwrite
	[Example]:
	● Request: GET /data/tags?iotag
	Content-type: application/json
	Response: 200 OK
	{
	"BoardIO:AI_0": {
	"name": "BoardIO:AI_0",
	"type": "IO Tag",
	"value": "-10.0000",
	"quality": "0000H",
	"timestamp": "1670206722.563118",
	"readwrite": "1"
	},
	"BoardIO:AI_1": {
	"name": "BoardIO:AI_1",
	"type": "IO Tag",
	"value": "-10.0000",
	"quality": "0000H",

```
      "timestamp": "1670206722.563118",
      "readwrite": "1"
    },
    "BoardIO:AI_2": {
      "name": "BoardIO:AI_2",
      "type": "IO Tag",
      "value": "-10.0000",
      "quality": "0000H",
      "timestamp": "1670206722.563118",
      "readwrite": "1"
    },
    "BoardIO:AI_3": {
      "name": "BoardIO:AI_3",
      "type": "IO Tag",
      "value": "-10.0000",
      "quality": "0000H",
      "timestamp": "1670206722.563118",
      "readwrite": "1"
    },
    "BoardIO:AI_4": {
      "name": "BoardIO:AI_4",
      "type": "IO Tag",
      "value": "-10.0000",
      "quality": "0000H",
      "timestamp": "1670206722.563118",
      "readwrite": "1"
    },
    "BoardIO:AI_5": {
      "name": "BoardIO:AI_5",
      "type": "IO Tag",
      "value": "-10.0000",
      "quality": "0000H",
      "timestamp": "1670206722.563118",
      "readwrite": "1"
    },
    "BoardIO:AI_6": {
      "name": "BoardIO:AI_6",
      "type": "IO Tag",
      "value": "-10.0000",
      "quality": "0000H",
      "timestamp": "1670206722.563118",
      "readwrite": "1"
    },
    "BoardIO:AI_7": {
```

```
      "name": "BoardIO:AI_7",
      "type": "IO Tag",
      "value": "-10.0000",
      "quality": "0000H",
      "timestamp": "1670206722.563118",
      "readwrite": "1"
    },
    "BoardIO:DI_0": {
      "name": "BoardIO:DI_0",
      "type": "IO Tag",
      "value": "0",
      "quality": "0000H",
      "timestamp": "1670206722.580872",
      "readwrite": "1"
    },
    "BoardIO:DI_1": {
      "name": "BoardIO:DI_1",
      "type": "IO Tag",
      "value": "0",
      "quality": "0000H",
      "timestamp": "1670206722.580872",
      "readwrite": "1"
    },
    "BoardIO:DI_2": {
      "name": "BoardIO:DI_2",
      "type": "IO Tag",
      "value": "0",
      "quality": "0000H",
      "timestamp": "1670206722.580872",
      "readwrite": "1"
    },
    "BoardIO:DI_3": {
      "name": "BoardIO:DI_3",
      "type": "IO Tag",
      "value": "0",
      "quality": "0000H",
      "timestamp": "1670206722.580872",
      "readwrite": "1"
    },
    "BoardIO:DI_4": {
      "name": "BoardIO:DI_4",
      "type": "IO Tag",
      "value": "0",
      "quality": "0000H",
```

```
      "timestamp": "1670206722.580872",
      "readwrite": "1"
    },
    "BoardIO:DI_5": {
      "name": "BoardIO:DI_5",
      "type": "IO Tag",
      "value": "0",
      "quality": "0000H",
      "timestamp": "1670206722.580872",
      "readwrite": "1"
    },
    "BoardIO:DI_6": {
      "name": "BoardIO:DI_6",
      "type": "IO Tag",
      "value": "0",
      "quality": "0000H",
      "timestamp": "1670206722.580872",
      "readwrite": "1"
    },
    "BoardIO:DI_7": {
      "name": "BoardIO:DI_7",
      "type": "IO Tag",
      "value": "0",
      "quality": "0000H",
      "timestamp": "1670206722.580872",
      "readwrite": "1"
    },
    "BoardIO:DO_0": {
      "name": "BoardIO:DO_0",
      "type": "IO Tag",
      "value": "0",
      "quality": "0000H",
      "timestamp": "1670206722.595945",
      "readwrite": "3"
    },
    "BoardIO:DO_1": {
      "name": "BoardIO:DO_1",
      "type": "IO Tag",
      "value": "0",
      "quality": "0000H",
      "timestamp": "1670206722.595945",
      "readwrite": "3"
    },
    "BoardIO:DO_2": {
```

	"name": "BoardIO:DO_2",
	"type": "IO Tag",
	"value": "0",
	"quality": "0000H",
	"timestamp": "1670206722.595945",
	"readwrite": "3"
	},
	"BoardIO:DO_3": {
	"name": "BoardIO:DO_3",
	"type": "IO Tag",
	"value": "0",
	"quality": "0000H",
	"timestamp": "1670206722.595945",
	"readwrite": "3"
	}
	
	}
	● Request: GET /data/tags/BoardIO:AI_0/
	Content-type: application/json
	Response: 200 OK
	{
	"name": "BoardIO:AI_0",
	"type": "IO Tag",
	"value": "-10.0000",
	"quality": "0000H",
	"timestamp": "1670206722.563118",
	"readwrite": "1"
	}
	● Request: GET /data/tags/%23SYS_UPTIME
	Content-type: application/json
	Response: 200 OK
	{
	"name": "#SYS_UPTIME",
	"type": "System Tag",
	"value": "640",
	"quality": "0000H",
	"timestamp": "1670205265.254424",
	"readwrite": "1"
	}

PUT	Single tag Request： **PUT** /data/tags/tag_name/value [Example]: ● Request: **PUT** /data/tags/BoardIO:AI_0/value

	Content-type: application/json
	{
	"value": "2.00",
	}
	
	Response: 200 OK

POST	None
PATCH	None

- Resource value definitions:

Field	Abbreviation	Data Type	Property	Description
value	value	String	RW	Tag value
type	type	String	R	Tag type: System Tag IO Tag User Tag Calc Tag
quality	quality	String	R	Tag quality. 0000H OK 0001H QLTY_OVER_RANGE 0002H QLTY_UNDER_RANGE 0003H QLTY_OPEN_LOOP 0004H QLTY_SHORTED_LOOP 8001H QLTY_RESTART 8002H QLTY_DRIVER_LOAD_FAILED 8003H QLTY_PORT_OPEN_FAILED 8004H QLTY_DEVICE_ERROR 8005H QLTY_CONVERSION_CODE_ERROR 8006H QLTY_CONVERSION_ERROR 8007H QLTY_DATA_TYPE_ERROR 8008H QLTY_DATA_SIZE_ERROR 8009H QLTY_DATA_ERROR 800aH QLTY_CHECKSUM_ERROR 800bH QLTY_MSG_SEQ_ERROR 8080H QLTY_NO_OWNER 8081H QLTY_DISCONNECTED 8100H QLTY_DRIVER_SEPCIFIED

readwrite	readwrite	String	R	Tag Property: 1: read only, 3: read-write
timestamp	timestamp	String	R	Tag timestamp
Remarks	For [#] mark: Some time use %23 instead of escape character #.			

2.8.3 Tag Search

/data/tags?{query string}

Description	Search tags according to different conditions in query string.
URL Structure	**https://{ip address}/data/tags**
HTTP Method	GET：Returns the tag information according to the query string.
GET	Tag Counts Request： **GET /data/tags?_count=total** **GET /data/tags?name={tag name}&_count=total** **GET /data/tags?iotag&_count=total** **GET /data/tags?iotag&select=name&_count=total** Tag Name Request: **GET /data/tags?systag&select=name** **GET /data/tags?iotag&select=name&name={tag name}** Tag Information Request: **GET /data/tags?taglist={tag name1}&{tag name2}&…** **GET /data/tags?_page_no=1&_page_size=10** **GET /data/tags?iotag** **GET /data/tags?iotag&_port_dev=1_1** **GET /data/tags?iotag&_page_no=1&_page_size=10** **GET /data/tags?name={tag name}** **GET /data/tags?_v2&taglist={tag name1}&{tag name2}&…** **GET /data/tags?_v2&_page_no=1&_page_size=10** **GET /data/tags?_v2** **GET /data/tags?_v2&iotag** **GET /data/tags?_v2&iotag&_port_dev=1_1** **GET /data/tags?_v2&iotag&_page_no=1&_page_size=10** **GET /data/tags?_v2&name={tag name}** [Example]: ● Request: GET /data/tags?_count=total Content-type: application/json

Response: 200 OK

```
{
        99
}
```

- Request: GET /data/tags?name= SYS_UPTIME&_count=total
  Content-type: application/json
  Response: 200 OK

```
{
       1
}
```

- Request: GET /data/tags?systag&select=name
  Content-type: application/json
  Response: 200 OK

```
[
            "#SYS_UPTIME",
            "#SYS_CURRENT_TIME",
            "#SYS_CPU_FREQ",
            "#SYS_MEM_SIZE",
            "#SYS_CPU_USED",
            "#SYS_CPU_IOWAIT",
            "#SYS_MEM_USED",
            "#SYS_SYSCARD_CAPACITY",
            "#SYS_SYSCARD_FREE_SPACE",
            "#SYS_DATACARD_CAPACITY",
            "#SYS_DATACARD_FREE_SPACE",
            "#SYS_NODE_ID",
            "#SYS_ROOT_READONLY",
            "#SYS_COM_COUNT",
            "#SYS_LAN_COUNT",
            "#SYS_DEFAULT_IF",
            "#MOBILE_SIM",
            "#MOBILE_IP",
            "#MOBILE_MNO",
            "#MOBILE_MNT",
            "#MOBILE_MDT",
            "#MOBILE_MPN",
            "#MOBILE_SIGNAL_QUALITY",
            "#MOBILE_CSQ",
            "#MOBILE_MCC",
            "#MOBILE_MNC",
            "#MOBILE_LAC",
            "#MOBILE_CID",
```

	"#MOBILE_IMSI", "#MOBILE_IMEI", "#MOBILE_IMEI_RAW", "#MOBILE_USBID", "#MOBILE_DATA_DAY", "#MOBILE_DATA_MONTH", "#MOBILE_DATA_YEAR", "#WLAN0_SIGNAL_QUALITY", "#WLAN0_SIGNAL_LEVEL", "#WLAN0_SIGNAL_NOISE", "#WLAN0_SIGNAL_BITRATE", "#ICDM_COM1_SCORE", "#ICDM_COM2_SCORE", "#ICDM_COM3_SCORE", "#ICDM_LAN1_SCORE", "#ICDM_LAN1_LINK", "#ICDM_LAN2_SCORE", "#ICDM_LAN2_LINK", "#GPS_LATITUDE", "#GPS_LONGITUDE", "#GPS_ALTITUDE", "#GPS_SPEED", "#GPS_COURSE", "#GPS_SATELLITE", "#SYS_BATTERY_LOW", "#SYS_TIME_SECOND", "#SYS_TIME_MINUTE", "#SYS_TIME_HOUR", "#SYS_TIME_DAY", "#SYS_TIME_MONTH", "#SYS_TIME_YEAR", "#SYS_TIME_WDAY", "#SYS_TIME_YDAY", "#SYS_TIME_ISDST", "#SYS_TIME_GMT_OFFSET", "#DATALOG_ENABLE", "#DATALOG_ERROR", "#SYS_MAC_LAN1", "#SYS_MAC_LAN2", "#SYS_TFCARD_CAPACITY", "#SYS_TFCARD_FREE_SPACE", "#SYS_SDCARD_CAPACITY", "#SYS_SDCARD_FREE_SPACE", "#DISABLE_DEVICE_BoardIO",

"#BATCH_WRITE_BoardIO",
"#DEVICE_ERROR_BoardIO",
"#DISABLE_PORT_ADAM-3600-C2GL1A1E",
"#DISABLE_PORT_COM1",
"#DISABLE_PORT_COM2",
"#DISABLE_PORT_COM3",
"#DISABLE_PORT_TCP"
]

- Request: GET
  /data/tags?taglist=#SYS_UPTIME&#SYS_CURRENT_TIME
  Content-type: application/json
  Response: 200 OK


```
{
    "#SYS_UPTIME": {
        "name": "#SYS_UPTIME",
        "type": "System Tag",
        "value": "15985",
        "quality": "0000H",
        "timestamp": "1670220609.916803",
        "readwrite": "1"
    },
    "#SYS_CURRENT_TIME": {
        "name": "#SYS_CURRENT_TIME",
        "type": "System Tag",
        "value": "1670220609",
        "quality": "0000H",
        "timestamp": "1670220609.916813",
        "readwrite": "1"
    }
}
```


- Request: GET
  /data/tags?_v2&taglist=#SYS_UPTIME&#SYS_CURRENT_TIME
  Content-type: application/json
  Response: 200 OK


```
[
    {
        "name": "#SYS_UPTIME",
        "type": "System Tag",
        "value": "22587",
        "quality": "0000H",
        "timestamp": "1679988061.540029",
        "readwrite": "1"
    },
    {
```

```
            "name": "#SYS_CURRENT_TIME",
            "type": "System Tag",
            "value": "1679988061",
            "quality": "0000H",
            "timestamp": "1679988061.239660",
            "readwrite": "1"
        }
]
```


- Request: GET /data/tags?_page_no=1&_page_size=10
  Content-type: application/json
  Response: 200 OK


```
{
        "#SYS_UPTIME": {
            "name": "#SYS_UPTIME",
            "type": "System Tag",
            "value": "16246",
            "quality": "0000H",
            "timestamp": "1670220871.002871",
            "readwrite": "1"
        },
        "#SYS_CURRENT_TIME": {
            "name": "#SYS_CURRENT_TIME",
            "type": "System Tag",
            "value": "1670220871",
            "quality": "0000H",
            "timestamp": "1670220871.002880",
            "readwrite": "1"
        },
        "#SYS_CPU_FREQ": {
            "name": "#SYS_CPU_FREQ",
            "type": "System Tag",
            "value": "597600000",
            "quality": "0000H",
            "timestamp": "1670204689.725974",
            "readwrite": "1"
        },
        "#SYS_MEM_SIZE": {
            "name": "#SYS_MEM_SIZE",
            "type": "System Tag",
            "value": "242.68 MB",
            "quality": "0000H",
            "timestamp": "1670204689.726412",
            "readwrite": "1"
```

```
},
"#SYS_CPU_USED": {
   "name": "#SYS_CPU_USED",
   "type": "System Tag",
   "value": "5.00%",
   "quality": "0000H",
   "timestamp": "1670220871.041042",
   "readwrite": "1"
},
"#SYS_CPU_IOWAIT": {
   "name": "#SYS_CPU_IOWAIT",
   "type": "System Tag",
   "value": "0.01%",
   "quality": "0000H",
   "timestamp": "1670218819.731185",
   "readwrite": "1"
},
"#SYS_MEM_USED": {
   "name": "#SYS_MEM_USED",
   "type": "System Tag",
   "value": "17.54%",
   "quality": "0000H",
   "timestamp": "1670220868.842525",
   "readwrite": "1"
},
"#SYS_SYSCARD_CAPACITY": {
   "name": "#SYS_SYSCARD_CAPACITY",
   "type": "System Tag",
   "value": "908.00 MB",
   "quality": "0000H",
   "timestamp": "1670204689.727537",
   "readwrite": "1"
},
"#SYS_SYSCARD_FREE_SPACE": {
   "name": "#SYS_SYSCARD_FREE_SPACE",
   "type": "System Tag",
   "value": "204.84 MB",
   "quality": "0000H",
   "timestamp": "1670204689.727581",
   "readwrite": "1"
},
"#SYS_DATACARD_CAPACITY": {
   "name": "#SYS_DATACARD_CAPACITY",
   "type": "System Tag",
```

	"value": "0.00 Bytes",
	"quality": "8004H",
	"timestamp": "1670204689.727635",
	"readwrite": "1"
	}
	}
	● Request: GET /data/tags?name=UPTIME
	Content-type: application/json
	Response: 200 OK
	{
	"#SYS_UPTIME": {
	"name": "#SYS_UPTIME",
	"type": "System Tag",
	"value": "16449",
	"quality": "0000H",
	"timestamp": "1670221074.719794",
	"readwrite": "1"
	}
	}
	● Request: GET /data/tags?name=UPTIME&_whole=1
	Content-type: application/json
	Response: 200 OK
	{}
	
	● Request: GET /data/tags?name=uptime&_whole=0&_case=0
	Content-type: application/json
	Response: 200 OK
	{
	"#SYS_UPTIME": {
	"name": "#SYS_UPTIME",
	"type": "System Tag",
	"value": "16449",
	"quality": "0000H",
	"timestamp": "1670221074.719794",
	"readwrite": "1"
	}
	}
	● Request: GET
	/data/tags?page_no=1&_page_size=10&_order_by=aes
	Content-type: application/json
	Response: 200 OK
	{
	"#BATCH_WRITE_BoardIO": {
	"name": "#BATCH_WRITE_BoardIO",

```
    "type": "System Tag",
    "value": "0",
    "quality": "0000H",
    "timestamp": "1670204688.305426",
    "readwrite": "3"
  },
  "#DATALOG_ENABLE": {
    "name": "#DATALOG_ENABLE",
    "type": "System Tag",
    "value": "0.0000",
    "quality": "8080H",
    "timestamp": "0.000000",
    "readwrite": "1"
  },
  "#DATALOG_ERROR": {
    "name": "#DATALOG_ERROR",
    "type": "System Tag",
    "value": "0.0000",
    "quality": "8080H",
    "timestamp": "0.000000",
    "readwrite": "1"
  },
  "#DEVICE_ERROR_BoardIO": {
    "name": "#DEVICE_ERROR_BoardIO",
    "type": "System Tag",
    "value": "0x0000",
    "quality": "0000H",
    "timestamp": "1670204688.490452",
    "readwrite": "1"
  },
  "#DISABLE_DEVICE_BoardIO": {
    "name": "#DISABLE_DEVICE_BoardIO",
    "type": "System Tag",
    "value": "0",
    "quality": "0000H",
    "timestamp": "1670204688.305426",
    "readwrite": "3"
  },
  "#DISABLE_PORT_ADAM-3600-C2GL1A1E": {
    "name": "#DISABLE_PORT_ADAM-3600-C2GL1A1E",
    "type": "System Tag",
    "value": "0",
    "quality": "0000H",
    "timestamp": "1670204688.303582",
```

	"readwrite": "3"
	},
	"#DISABLE_PORT_COM1": {
	"name": "#DISABLE_PORT_COM1",
	"type": "System Tag",
	"value": "0",
	"quality": "8080H",
	"timestamp": "0.000000",
	"readwrite": "3"
	},
	"#DISABLE_PORT_COM2": {
	"name": "#DISABLE_PORT_COM2",
	"type": "System Tag",
	"value": "0",
	"quality": "8080H",
	"timestamp": "0.000000",
	"readwrite": "3"
	},
	"#DISABLE_PORT_COM3": {
	"name": "#DISABLE_PORT_COM3",
	"type": "System Tag",
	"value": "0",
	"quality": "8080H",
	"timestamp": "0.000000",
	"readwrite": "3"
	},
	"#DISABLE_PORT_TCP": {
	"name": "#DISABLE_PORT_TCP",
	"type": "System Tag",
	"value": "0",
	"quality": "8080H",
	"timestamp": "0.000000",
	"readwrite": "3"
	}
	}

PUT	None
POST	None
PATCH	None
Note	

- Resource value definitions:

Field	Abbreviation	Data Type	Property	Description
Tag value	value	String	R	Tag value
Tag type	type	String	R	Tag type: System Tag IO Tag User Tag Calc Tag
Tag quality	quality	String	R	Tag quality. 0000H OK 0001H QLTY_OVER_RANGE 0002H QLTY_UNDER_RANGE 0003H QLTY_OPEN_LOOP 0004H QLTY_SHORTED_LOOP 8001H QLTY_RESTART 8002H QLTY_DRIVER_LOAD_FAILED 8003H QLTY_PORT_OPEN_FAILED 8004H QLTY_DEVICE_ERROR 8005H QLTY_CONVERSION_CODE_ERROR 8006H QLTY_CONVERSION_ERROR 8007H QLTY_DATA_TYPE_ERROR 8008H QLTY_DATA_SIZE_ERROR 8009H QLTY_DATA_ERROR 800aH QLTY_CHECKSUM_ERROR 800bH QLTY_MSG_SEQ_ERROR 8080H QLTY_NO_OWNER 8081H QLTY_DISCONNECTED 8100H QLTY_DRIVER_SEPCIFIED
Tag timestamp	timestamp	String	R	Tag timestamp
Tag readwrite property	readwrite	String	R	Tag Property: 1: read only, 3: read -write
Tag value digits	digits	Number	W	The number of significant digits after the decimal point. Range: 0~16.

- Query fields definitions:

Field	Abbreviation	Data Type	Description
Tag list	taglist	String	Tag list
Select item	select	String	Get tag name. select=name
Version array	_v2	String	Return tag information in json array
Io tag [1]	iotag	String	All io tags
Sys tag [2]	systag	String	All system tags
User tag [2]	usertag	String	All user tags
Calc tag [2]	calctag	Number	All calc tags
name [3]	name	String	Search tags according to the tag name's part of the name or whole of the name. Support: 1) whole name search; 2) case sensitive search; 3) regex search
Page number [4]	_page_no	String	Set the page number of the select tags, use with _page_size
Page size [4]	_page_size	String	Set the tags numbers in one page, use with _page_no
Port number and device number [5]	_port_dev	String	Search according to the port name and the device name. For io tags only. E.g.: 0_1 means port 0, device 1; 1 means all devices on port 1.
Tag count	_count	String	Returns tag counts according to the query conditions. _count=total
Case sensitive*	_case	String	Case sensitive when searching tags. _case=0: no case sensitive _case=1: case sensitive
Whole word search*	_whole	String	Whole word search. _while=0: no whole word search _while=1: whole word search
Regex search*	_regex	String	Regex search. _regex=0: no regex search _regex=1: regex search
Sort order*	_order_by	String	Sort order. _order_by=asc: ascend order _order_by=desc: descend order

Remark	*: The fields marked with [*] can be used with each other and the fields marked [1], [2], [3], [4] and [5]. The fields cannot be used alone. [3]: The field can be used with the fields marked [1], [2], [4] and [5]. [5]: The field should be used with field marked [1].

/data/daq

Description	Retrieves information about io tag structure on edgelink device.
URL Structure	**https://{ip address}/data/daq**
HTTP Method	GET： Returns tag names of all io tag according to port-device hierarchical structure
GET	**GET / data/daq** [Example]: ● Request: GET /data/daq Content-type: application/json Response: 200 OK { "Port": [{ "name": "ADAM-3600-C2GL1A1E", "enable": "true", "portNbr": 0, "Device": [{ "name": "BoardIO", "deviceIndex": 0, "IOTag": ["BoardIO:AI_0", "BoardIO:AI_1", "BoardIO:AI_2", "BoardIO:AI_3", "BoardIO:AI_4", "BoardIO:AI_5", "BoardIO:AI_6", "BoardIO:AI_7", "BoardIO:DI_0", "BoardIO:DI_1", "BoardIO:DI_2", "BoardIO:DI_3", "BoardIO:DI_4", "BoardIO:DI_5", "BoardIO:DI_6",

```
                "BoardIO:DI_7",
                "BoardIO:DO_0",
                "BoardIO:DO_1",
                "BoardIO:DO_2",
                "BoardIO:DO_3"
            ]
        }
    ]
},
{
    "name": "COM1",
    "enable": "false",
    "portNbr": 1
},
{
    "name": "COM2",
    "enable": "false",
    "portNbr": 2
},
{
    "name": "COM3",
    "enable": "true",
    "portNbr": 3,
    "Device": [
        {
            "name": "ModbusRTU1",
            "deviceIndex": 0,
            "IOTag": [
                "ModbusRTU1:RTU1",
                "ModbusRTU1:RTU2",
                "ModbusRTU1:RTU3"
            ]
        },
        {
            "name": "ModbusRTU2",
            "deviceIndex": 1,
            "IOTag": [
                "ModbusRTU2:RTU21",
                "ModbusRTU2:RTU22",
                "ModbusRTU2:RTU23",
                "ModbusRTU2:RTU24"
            ]
        }
    ]
```

<table>
<tr><td></td><td><pre>
        },
        {
          "name": "TCP",
          "enable": "true",
          "portNbr": 4,
          "Device": [
            {
              "name": "ModbusTCP",
              "deviceIndex": 0,
              "IOTag": [
                "ModbusTCP:TCP1",
                "ModbusTCP:TCP2",
                "ModbusTCP:TCP3"
              ]
            },
            {
              "name": "DNP3",
              "deviceIndex": 1,
              "IOTag": [
                "DNP3:DNP1",
                "DNP3:DNP2"
              ]
            },
            {
              "name": "OPCUA",
              "deviceIndex": 2,
              "IOTag": [
                "OPCUA:opcua1",
                "OPCUA:opcua2"
              ]
            }
          ]
        }
      ]
    }
</pre></td></tr>
<tr><td>PUT</td><td>None</td></tr>
<tr><td>POST</td><td>None</td></tr>
<tr><td>PATCH</td><td>None</td></tr>
<tr><td>Note</td><td></td></tr>
<tr><td colspan="2">● Resource value definitions:</td></tr>
</table>

Field	Abbreviation	Data Type	Property	Description
portNbr	portNbr	String	R	Port index
deviceIndex	deviceIndex	String	R	Device index
enable	enable	String	R	The port or device is enabled or not
Remark				

2.9 Data Logger

`/data/datalogger/tagname`

Description	Retrieves all tag names recorded in data logger.
URL Structure	**https://{ip address}/data/datalogger/tagname**
HTTP Method	GET：Returns the tag names recorded in datalogger.

GET	Request：**GET / data/datalogger/{tagname}**
	
	[Example]:
	● Request: **GET / data/ datalogger/{tagname}**
	
	Content-type: application/json
	Response: 200 OK
	
	{
	"datalogger_tagname": [
	"#SYS_CPU_USED",
	"#SYS_TFCARD_CAPACITY",
	"#SYS_NODE_ID",
	"#SYS_LAN_COUNT",
	"#SYS_UPTIME",
	"#SYS_MAC_LAN1",
	"#SYS_MAC_LAN2",
	"#MOBILE_MPN",
	"#GPS_LATITUDE",
	]
	}

PUT	None
POST	None
PATCH	None
Remarks	

/data/datalogger

/data/datalogger/{TaskID}

Description	Start to query all records of the selected tag in data logger.
URL Structure	**https://{ip address}/data/datalogger**
	POST：Returns the time stamp of the beginning point of the query.
GET	None
PUT	None

POST	Request：**POST / data/datalogger**
	
	[Example]: Start to query Statistics data
	● Request: **POST** / **data/datalogger**
	Content-type: application/json
	{
	"Tn":"#SYS_CPU_FREQ",
	"St":"1577899541",
	"Et":"1577975941",
	"Tp":"-1"
	}
	Response: 200 OK
	{
	"taskid": "0 "
	}

PATCH	None

- Resource value definitions:

Field	Abbreviation	Data Type	Property	Description
Tag Name	Tn	String	RW	Tag name in datalogger
Start time	St	String	RW	Start time of time. Unix timestamp 0: The first record time
Ebd time	Et	String	RW	End time of time. Unix timestamp 0: The latest record time
Query Type	Tp	String	RW	Query type "-1" Historical query "0" Query in minutes "1" Query in hour "2" Query in day

Remarks	

Description	Get the status of the inquiries
URL Structure	**https://{ip address}/data/datalogger/{TaskID}** **Where:** TaskID: returns by post request：/ data/datalogger
	GET：Returns the query status.

GET	Request：**GET / data/datalogger/{TaskID}**
	
	[Example]: Get query status
	● Request: **GET**
	/ **data/datalogger/0**
	
	Content-type: application/json
	Response: 200 OK
	If the query is not finished,
	{
	"status": "querying",
	"timestamp": "xxxxxxx",
	"count": "4",
	}
	If the query is timeout
	{
	"taskid":"xxx",
	"status":"timeout",
	"records": [
	{
	"timestamp": "1523424600",
	"quality": "-32640",
	"partial": "1",
	"last": "0.0000",
	"min": "0.0000",
	"max": "0.0000",
	"avg": "0.0000"
	},
	{
	"timestamp": "1523424720",
	"quality": "-32640",
	"partial": "1",
	"last": "0.0000",
	"min": "0.0000",
	"max": "0.0000",
	"avg": "0.0000"
	},
	{
	"timestamp": "1523424900",

```
                "quality": "-32640",
                "partial": "1",
                "last": "0.0000",
                "min": "0.0000",
                "max": "0.0000",
                "avg": "0.0000"
            },
            {
                "timestamp": "1523424960",
                "quality": "-32640",
                "partial": "0",
                "last": "0.0000",
                "min": "0.0000",
                "max": "0.0000",
                "avg": "0.0000"
            },
            {
                "timestamp": "1523425020",
                "quality": "-32640",
                "partial": "0",
                "last": "0.0000",
                "min": "0.0000",
                "max": "0.0000",
                "avg": "0.0000"
            }
        ],
        "count": "5"
}
```


If the query is completed


```
{
        "taskid":"xxx",
        "status":"finish",
        "records": [
            {
                "timestamp": "1523424600",
                "quality": "-32640",
                "partial": "1",
                "last": "0.0000",
                "min": "0.0000",
                "max": "0.0000",
                "avg": "0.0000"
            },
            {
                "timestamp": "1523424720",
```

```
                "quality": "-32640",
                "partial": "1",
                "last": "0.0000",
                "min": "0.0000",
                "max": "0.0000",
                "avg": "0.0000"
            },
            {
                "timestamp": "1523424900",
                "quality": "-32640",
                "partial": "1",
                "last": "0.0000",
                "min": "0.0000",
                "max": "0.0000",
                "avg": "0.0000"
            },
            {
                "timestamp": "1523424960",
                "quality": "-32640",
                "partial": "0",
                "last": "0.0000",
                "min": "0.0000",
                "max": "0.0000",
                "avg": "0.0000"
            },
            {
                "timestamp": "1523425020",
                "quality": "-32640",
                "partial": "0",
                "last": "0.0000",
                "min": "0.0000",
                "max": "0.0000",
                "avg": "0.0000"
            }
        ],
        "count": "5"
}
```


[Example]: Query Historical data

- Request: **GET**

/ data/ datalogger/0


```
{
        "taskid":"xxx",
        "status":"finish",
        "records": [
```

```
            {
                "timestamp": "1523424652.0000",
                "value": "0.0000",
                "quality": "-32640"
            },
            {
                "timestamp": "1523424653.0000",
                "value": "0.0000",
                "quality": "-32640"
            },
            {
                "timestamp": "1523424654.0000",
                "value": "0.0000",
                "quality": "-32640"
            },
            {
                "timestamp": "1523424655.0000",
                "value": "0.0000",
                "quality": "-32640"
            },
            {
                "timestamp": "1523424656.0000",
                "value": "0.0000",
                "quality": "-32640"
            },
            {
                "timestamp": "1523424657.0000",
                "value": "0.0000",
                "quality": "-32640"
            },
            {
                "timestamp": "1523424658.0000",
                "value": "0.0000",
                "quality": "-32640"
            },
            {
                "timestamp": "1523424659.0000",
                "value": "0.0000",
                "quality": "-32640"
            }
        ],
        "count": "8"
}
```

PUT	None

POST	Request：POST / **data/datalogger/0**
	
	[Example]: Send cancel command to stop quety
	● Request: **POST**
	/ **data/datalogger/0**
	Content-type: application/json
	{
	"status":"cancel"
	}
	Response: 200 OK

PATCH	None

● Query value definitions:

Field	Abbreviation	Data Type	Property	Description
Tag Name	Tn	String	RW	Tag name in datalogger
Start time	St	String	RW	Start time of time. Unix timestamp 0: The first record time
Ebd time	Et	String	RW	End time of time. Unix timestamp 0: The latest record time
Query Type	Tp	String	RW	Query type "-1" Historical query "0" Query in minutes "1" Query in hour "2" Query in day

Remarks	**Timeout:** **Timeout for querying data logger is 20 seconds, if the interval between two GET requests is more than 20 seconds , the query will be canceled，data that has been queried can be get.** **Cancel:** **If the query is canceled, data that has been queried can be get.** **Note: In both above cases, the query result may be incomplete.**

2.10 Log in/log out

2.10.1 Log in

/sys/log_in

Description	Log in the device for configuration or image updating.
URL Structure	**https://{ip address}/sys/log_in/**
HTTP Method	PUT：
GET	None

PUT	Request：**PUT** /sys/log_in
	[Example]:
	● Request: **PUT** /sys/log_in
	Content-type: application/json
	{
	"password":"00000000"
	}
	
	Response:
	{
	"sesion_id": "c9f4baf91d3e4ed7cfb18e598c5711f5",
	}
	[Example]:
	● Request: **PUT** /sys/log_in?timeout=xxxx
	Content-type: application/json
	{
	"password":"00000000"
	}
	
	Response:
	{
	"sesion_id":"c9f4baf91d3e4ed7cfb18e598c5711f5"
	}

POST	None
PATCH	None

- Resource value definitions:

Field	Abbreviation	Data Type	Property	Description
password	password	String	RW	User password
Session index	session_id	String	R	Session index for cookies

- Query param definitions:

Field	Abbreviation	Data Type	Property	Description
Timeout	timeout	String	W	Set timeout for current login session. xxxx：timeout value. unit: second. If timeout value is zero, then the session will never timeout util the logout operation is happened.

Remarks	Session_id will be used in cookie for GET/PUT/POST/PATCH method. Cookie: SID=c9f4baf91d3e4ed7cfb18e598c5711f5 Session timeout value means if there is no web access to webservice for such time period after login, the session will be timeout. The default value is 3600 seconds.

2.10.2 Log out

`/sys/log_out`

Description	Log out the device
URL Structure	**https://{ip address}/sys/log_out/**
HTTP Method	PUT
GET	None

PUT	- Request: **PUT** /sys/log_out
	Content-type: application/json
	
	Response:
	{
	"Success":"Log out "
	}

POST	None
PATCH	None

● Resource value definitions:	
Remarks	

2.11 Image Update

2.11.1 Image File Information Verification

/sys/file_verify

Description	Get image file information from user.
URL Structure	**https://{ip address}/sys/file_verify/**
HTTP Method	POST
GET	None
PUT	None

POST	Request：**POST** /sys/file_verify
	[Example]:
	● Request: **POST** /sys/file_verify
	Content-type: application/json
	
	Response:
	{
	"size":"5375",
	"count":"2"
	"detail": [
	{
	" name ":" manifest.xml",
	" size ":"5007",
	},
	{
	"name":" checksum.md5",
	"size":”368”,
	},
	]
	}

PATCH	None
● Resource value definitions:	
Remarks	This request must be executed before /sys/upload

2.11.2 Image Upload

/sys/upload

The standard way to upload files in a web application is to use a form with a special multipart/form-data encoding.
<RFC1521> In the case of multiple part entities, in which one or more different sets of data are combined in a single body, a "multipart" Content-Type field must appear in the entity's header. The body must then contain one or more "body parts," each preceded by an encapsulation boundary, and the last one followed by a closing boundary. Each part starts with an encapsulation boundary, and then contains a body part consisting of header area, a blank line, and a body area.
Each body part is preceded by an encapsulation boundary. The encapsulation boundary MUST NOT appear inside any of the encapsulated parts. Thus, it is crucial that the composing agent be able to choose and specify the unique boundary that will separate the parts.
Encapsulation boundaries must not appear within the encapsulations, and must be no longer than 70 characters, not counting the two leading hyphens.
The encapsulation boundary following the last body part is a distinguished delimiter that indicates that no further body parts will follow. Such a delimiter is identical to the previous delimiters, with the addition of two more hyphens at the end of the line:

--gc0p4Jq0M2Yt08jU534c0p--

<RFC2388> “Multipart/form-data” can be used for forms that are presented using representations other than HTML (spreadsheets, Portable Document Format, etc), and for transport using other means than electronic mail or HTTP. This document defines the representation of form values independently of the application for which it is used. "Multipart/form-data" contains a series of parts. Each part is expected to contain a content-disposition header [RFC 2183] where the disposition type is "form-data", and where the disposition contains an (additional) parameter of "name", where the value of that parameter is the original field name in the form. For example, a part might contain a header:

Content-Disposition: form-data; name="user"

with the value corresponding to the entry of the "user" field.
Field names originally in non-ASCII character sets may be encoded within the value of the "name" parameter using the standard method described in RFC 2047.

Description	Log in the device for configuration or image updating.
URL Structure	**https://{ip address}/sys/upload/**
HTTP Method	POST：
GET	None

PUT	None
POST	Request：**POST** /sys/upload [Example]: ● Request: **POST** /sys/upload Content-type: application/json Content-Type:multipart/form-data; boundary=----WebKitFormBoundaryuTETT0zNHgTxZV1W … ------WebKitFormBoundaryuTETT0zNHgTxZV1W Content-Disposition:form-data; name="ADAM-3600-image-1.1.2.bin"; filename="ADAM-3600-image-1.1.2.bin" Content-Type: text/plain < data> ------WebKitFormBoundaryuTETT0zNHgTxZV1W-- Response: 200 OK
PATCH	None
Remarks	Must log in first

2.11.3 Image Update

`/sys/update`

Description	Begin to update the files of edgelink device.
URL Structure	**https://{ip address}/sys/update/**
HTTP Method	POST
GET	None
PUT	None
POST	Request：**POST** /sys/update [Example]: ● Request: **POST** /sys/update Content-type: application/json Response: { "Notice":"updating"

	}
PATCH	None
Remarks	Must log in first

2.11.4 Get information in update process

/sys/update_info

Description	Get the updating notice information
URL Structure	**https://{ip address}/sys/update_info**
HTTP Method	GET

GET	Request：**GET** /sys/update_info
	[Example]:
	● Request: **GET** /sys/update_info
	Content-type: application/json
	
	Response:
	{
	"updateinfo": {update information}
	}
	
	{update information}: Update notice information

PUT	None
POST	None
PATCH	None
Remarks	

2.11.5 Image version information

/sys/version?filename=/tmp/menifest.xml

Description	Show the version information of the update package for Edgelink device.
URL Structure	**https://{ip address}/sys/version?filename=/tmp/menifest.xml**
HTTP Method	GET
GET	Request：**GET /s**ys/version?filename=/tmp/menifest.xml [Example]:

	● Request: **GET /s**ys/version?filename=/tmp/menifest.xml Content-type: application/json
PUT	None
POST	None
PATCH	None
Remarks	

2.11.6 Recover to default image

/sys/image/recovery

/sys/image/recovery?token={token}

Description	Recover to default image of edgelink device.
URL Structure	**https://{ip address}/sys/image/recovery**
HTTP Method	POST
GET	None
PUT	None

POST	Request:
	POST /sys/image/recovery
	POST /sys/image/recovery?token={token string}
	[Example]:
	● Request: **POST** /sys/image/recovery
	Content-type: application/json
	
	Response:
	{
	"version": "2.8.2",
	"token": "gQb4gRECXnyzuiFB3me7Lg=="
	}
	● Request:
	POST
	/sys/image/recovery?token=gQb4gRECXnyzuiFB3me7Lg==
	Content-type: application/json
	
	If image file checksum fails:
	Response: 200 OK
	{
	"Error":"Default image file on device corrupted, please upload image manually first"
	}
	
	If token verification and image checksum are successful, edgelink device reboot to recover image.
	:
	Response: 200 OK

PATCH	None

Remarks	Must log in first

2.12 System log file

Get syslog of device

`/sys/log_create`

Description	Create a thread to get the syslog of edgelink device.
URL Structure	**https://{ip address}/sys/log_create**
HTTP Method	GET

GET	Request：**GET** /sys/log_create
	[Example]:
	● Request:**GET** /sys/log_create
	Content-type: application/json
	
	Response:
	{
	"TS":"1431773198"
	}

PUT	None
POST	None
PATCH	None

● Resource value definitions:

Field	Abbreviation	Data Type	Property	Description
TimeStamp	TS	String	R	The timestamp to create the get syslog message thread

Remarks	

`/sys/log_message`

Description	Get the syslog messages of Edgelink device between twice requests.
URL Structure	**https://{ip address}/sys/log_message**
HTTP Method	POST
GET	None

<table>
<tr><td>PUT</td><td>None</td></tr>
<tr><td>POST</td><td>Request：POST /sys/log_message

[Example]:
● Request: POST /sys/log_message
Content-type: application/json
Request:
{
"TS":"1431773198"
}
Response:
{
"syslog_info": {syslog information}
}

{syslog information}: The syslog messages on Edgelink device between twice requests.</td></tr>
<tr><td>PATCH</td><td>None</td></tr>
<tr><td colspan="2">● Resource value definitions:
<table><tr><th>Field</th><th>Abbreviation</th><th>Data Type</th><th>Property</th><th>Description</th></tr><tr><td>TimeStamp</td><td>TS</td><td>String</td><td>R</td><td>The timestamp to create the get syslog message thread</td></tr></table></td></tr>
<tr><td>Remarks</td><td></td></tr>
</table>

2.13 Network

2.13.1 GPRS Info

/data/cellular_info

Description	Retrieves information about the cellular information.
URL Structure	**https://{ip address}/data/cellular_info** **https://{ip address}/ data/cellular_info/{cellular item}**
HTTP Method	GET：Returns the representation of GPRS information.

GET	Multi Request：
	GET / data/cellular_info/
	Single information Request：
	GET / data/cellular_info/{cellular item}
	
	xxxx: name of some cellular information, such as: PUB_IP
	
	[Example]:
	● Request: GET /data/cellular_info
	Content-type: application/json
	Response: 200 OK
	{
	"MOBILE_MNO": "No GPRS Service",
	"MOBILE_MNT": "No GPRS Service",
	"MOBILE_MPN": "0",
	"MOBILE_MDT": "0 Bytes",
	"MOBILE_SIGNAL_QUALITY": "Not Connected(0)",
	"PUB_IP": "0.0.0.0"
	}
	● Request: GET /data/cellular_info/ PUB_IP
	
	Content-type: application/json
	Response: 200 OK
	{
	"0.0.0.0"
	}

PUT	None
POST	None
PATCH	None

- Resource value definitions:

Field	Abbreviation	Data Type	Property	Description
Mobile network operator	MOBILE_MNO	String	R	Mobile operator: China Mobile China Unicom China Telecom China Tietong
Mobile network type	MOBILE_MNT	String	R	Mobile network type: 2G, 3G, 4G
Mobile Phone Number	MOBILE_MPN	String	R	Mobile Phone Number 86xxxxxxxxxx
Mobile data traffic	MOBILE_MDT	String	R	Mobile data traffic
Mobile signal quality	MOBILE_SIGNAL_QUALITY	String	R	Mobile signal quality 0-100
IP address	PUB_IP	String	R	IP address of the public network

Remark	

2.13.2 Lan Configuration

`/sys/net_basic/lan/`

Description	Retrieves the network link information.
URL Structure	**http://{ip address}/sys/net_basic**/lan
HTTP Method	GET：Returns the representation of all of network link information resource. PUT：Replace all of network link information resource. PATCH：Apply partial modifications to network link information resource.
GET	Request： **GET /sys/net_basic/lan** **/sys/net_basic/lan/id_x** [Example]: ● Request: **GET /sys/net_basic/lan/** Content-type: application/json Response: 200 OK

```
{
 "ETH": [
    {
      "IF": "eth0",
      "DN": "LAN1",
      "SL": "",
     "IfStat": "Down",
      "LinkStat": "Not wired",
      "ipv4": {
        "IP": "192.168.172.223",
        "MAC": "54:4A:16:8F:71:98",
        "Msk": "255.255.255.0",
        "GW": "192.168.172.1",
        "DHCP": 1,
        "DNS": {
          "IsAuto": "true",
          "DnsIP": ""
        }
      },
      "ipv6": {
        "IP": "fe80::564a:16ff:fe8f:7198",
        "MAC": "54:4A:16:8F:71:98",
        "PrfL": "64",
        "GW": "fe80::2276:93ff:fe2d:f474",
        "DHCP": 1,
        "DNS": {
          "IsAuto": "true",
          "DnsIP": ""
        }
      },
      "cnnttype": {
        "CnCkTp": "None",
        "PInt": 1,
        "PHost": {
          "host0": "",
          "host1": "www.badiu.com",
          "host2": ""
        },
        "MxSlcTm": 60,
        "RbtTm": 0
      }
    },
    {
```

```
        "IF": "eth1",
        "DN": "LAN2",
        "SL": "",
         "IfStat": "Up",
        "LinkStat": "Wired",
        "ipv4": {
          "IP": "0.0.0.0",
          "MAC": "54:4A:16:8F:71:9A",
          "Msk": "0.0.0.0",
          "GW": "0.0.0.0",
          "DHCP": 1,
          "DNS": {
            "IsAuto": "true",
            "DnsIP": ""
          }
        },
        "ipv6": {
          "IP": "::",
          "MAC": "54:4A:16:8F:71:9A",
          "PrfL": "1",
          "GW": "::",
          "DHCP": 1,
          "DNS": {
            "IsAuto": "true",
            "DnsIP": ""
          }
        },
        "cnnttype": {
          "CnCkTp": "None",
          "PInt": 1,
          "PHost": {
            "host0": "",
            "host1": "www.badiu.com",
            "host2": ""
          },
          "MxSlcTm": 60,
          "RbtTm": 0
        }
      }
    ]
}
```

PUT	Request:
	PUT /sys/net_basic/lan/id_x
	PUT /sys/net_basic/lan/id_x/ipv4/
	
	[Example]:
	● Request: **PUT /sys/net_basic/lan/id_0/ipv4/**
	Content-type: application/json
	{
	"IP": "10.0.0.2",
	"Msk": "255.255.255.0",
	"GW": "{ip address}",
	"DHCP": 0
	}
	Response: 200 OK
	{
	"Success": "Config netcard completed"
	}
	Content-type: application/json
	{
	"DHCP": 1
	}
	Response: 200 OK
	{
	"Success": "Config netcard completed"
	}

POST	None
PATCH	None

● Resource value definitions:

Field	Abbreviation	Data Type	Property	Description
Interface name	IF	String	R	Interface name: ex. eth0
Slot ID	SL	String	R	Slot ID: Onboard or Slot 0….
Interface status	IfStat	String	R	Interface status: Up or Down
Link status	LinkStat	String	R	Link status: Wired or Not wired
MAC ID	MAC	String	R	MAC address. (12+5) characters, ex, "00-D0-C9-F0-63-F7"
Get IP Method	DHCP	Number	RW	Get IP Method 0 : static IP

				1: DHCP
IP Address	IP	String	RW	IP address
Subnet Mask	Msk	String	RW	Subnet Mask
Gateway Address	GW	String	RW	Gateway address
IPV6	PrfL	String	RW	Subnet prefix length
DNS mode	IsAuto	String	RW	Auto DNS, or manual config DNS address
DNS address	DnsIP	String	RW	DNS address
Connection Check Type	CnCkTp	String	RW	The type of check connection: "None"，"Ping"
Ping Interval	PInt	Number	RW	Ping interval. Unit: Second
Ping Host	host	String	RW	Host name used to check connectio support 3 host name
Max Silence Time	MxSlcTm	Number	RW	Wait time for checking connection. Unit: Minute
Reboot On Failure Time	RbtTm	Number	RW	If connection failure time is exceeding the value, reboot edgelink device. Unit: hour

●

Remarks	

2.13.3 Wlan Configuration

/sys/net_basic/wlan/

Description	Retrieves the wlan network link information.
URL Structure	http://{ip address}/sys/net_basic/wlan
HTTP Method	GET：Returns the representation of all of network link information resource. PUT：Replace all of network link information resource. PATCH：Apply partial modifications to network link information resource.
GET	Request: **GET /sys/net_basic/wlan**

[Example]:

- Request: **GET /sys/net_basic/wlan**

Content-type: application/json

Response: 200 OK


```
{
  "WL": [
    {
      "general": {
        "Nm": "wlan0",
        "DevId": "1286:204a",
        "En": 1,
        "Md": "Client"
      },
      "client": {
        "general": {
          "SSID": "RD192_6633",
          "BSSID": "",
          "Scrt": "WPA/WPA2 PSK",
          "Pswd": " YWR2YW50ZWNoNjYzMw=="
        },
        "ipv4": {
          "IP": "0.0.0.0",
          "MAC": "D4:CA:6E:90:1A:D3",
          "Msk": "0.0.0.0",
          "GW": "0.0.0.0",
          "DHCP": 1,
          "DNS": {
            "IsAuto": "true",
            "DnsIP": ";;"
          }
        },
        "ipv6": {
          "IP": "::",
          "MAC": "D4:CA:6E:90:1A:D3",
          "PrfL": "1",
          "GW": "::",
          "DHCP": 1,
          "DNS": {
            "IsAuto": "true",
            "DnsIP": ";;"
          }
        },
        "cnnttype": {
```

<table>
<tr><td></td><td>
<pre>
            "CnCkTp": "Ping",
            "PInt": 1,
            "PHost": {
              "host0": "www.baidu.com",
              "host1": "",
              "host2": ""
            },
            "MxSlcTm": 60,
            "RbtTm": 0
          }
        },
        "AP": {
          "general": {
            "Chn": "6",
            "MxStn": "10",
            "SSID": "WiFi AP",
            "Scrt": "open",
            "Pswd": ""
          },
          "ipv4": {
            "IP": "192.168.180.1",
            "MAC": "D4:CA:6E:90:1A:D3",
            "Msk": "255.255.255.0",
            "GW": "0.0.0.0",
            "DHCP": 0
          }
        }
      }
    ]
}
</pre>
</td></tr>
<tr><td>PUT</td><td>
Request：
PUT /sys/net_basic/wlan/id_0

[Example]:
● Request: PUT /sys/net_basic/wlan/id_0
Content-type: application/json
<pre>
{
  "general": {
    "Nm": "wlan0",
    "DevId": "1286:204a",
    "En": 1,
    "Md": "Client"
  },
</pre>
</td></tr>
</table>

```
"client": {
  "general": {
    "SSID": "RD192_6633",
    "BSSID": "",
    "Scrt": "WPA/WPA2 PSK",
    "Pswd": " YWR2YW50ZWNoNjYzMw=="
  },
  "ipv4": {
    "IP": "0.0.0.0",
    "MAC": "D4:CA:6E:90:1A:D3",
    "Msk": "0.0.0.0",
    "GW": "0.0.0.0",
    "DHCP": 1,
    "DNS": {
      "IsAuto": "true",
      "DnsIP": ";;"
    }
  },
  "ipv6": {
    "IP": "::",
    "MAC": "D4:CA:6E:90:1A:D3",
    "PrfL": "1",
    "GW": "::",
    "DHCP": 1,
    "DNS": {
      "IsAuto": "true",
      "DnsIP": ";;"
    }
  },
  "cnnttype": {
    "CnCkTp": "Ping",
    "PInt": 1,
    "PHost": {
      "host0": "www.baidu.com",
      "host1": "",
      "host2": ""
    },
    "MxSlcTm": 60,
    "RbtTm": 0
  }
},
"AP": {
  "general": {
    "Chn": "6",
```

```
            "MxStn": "10",
            "SSID": "WiFi AP",
            "Scrt": "open",
            "Pswd": ""
        },
        "ipv4": {
            "IP": "192.168.180.1",
            "MAC": "D4:CA:6E:90:1A:D3",
            "Msk": "255.255.255.0",
            "GW": "0.0.0.0",
            "DHCP": 0
        }
    }
}
Response: 200 OK
{
    "Success": "Config netcard completed"
}
```


POST	None
PATCH	None

- Resource value definitions:

Field	Abbreviation	Data Type	Property	Description
Interface Name	Nm	String	R	Interface name, wlanx
DeviceID	DevId	String	R	Device ID of the wifi module
Enable	En	String	R	Enble or disable wifi, 0 or 1
Mode	Md	String	RW	Client or AP mode
Service Set Id	SSID	String	RW	Service set identifier
AP MAC address	BSSID	String	RW	MAC address of access point, not necessary
Security type	Scrt	String	RW	Open, WPA/WPA2 PSK, WEP
Password	Pswd	String	RW	Access point password, use base64 encode
Channel	Chn	String	RW	Default :6, Value: Auto, 1~11
Max station number	MxStn	String	RW	Maximum number of stations
MAC ID	MAC	String	R	MAC address. (12+5) characters, ex, "00-D0-C9-F0-63-F7"

Get IP Method	DHCP	Number	RW	Get IP Method 0: static IP 1: DHCP
IP Address	IP	String	RW	IP address
Subnet Mask	Msk	String	RW	Subnet Mask
Gateway Address	GW	String	RW	Gateway address
IPV6	PrfL	String	RW	Subnet prefix length
DNS mode	IsAuto	String	RW	Auto DNS, or manual config DNS address
DNS address	DnsIP	String	RW	DNS address
Connection Check Type	CnCkTp	String	RW	The type of check connection: "None"，"Ping"
Ping Interval	PInt	Number	RW	Ping interval. Unit: Second
Ping Host	host	String	RW	Host name used to check connectio support 3 host name
Max Silence Time	MxSlcTm	Number	RW	Wait time for checking connection. Unit: minute
Reboot On Failure Time	RbtTm	Number	RW	If connection failure time is exceeding the value, reboot edgelink device. Unit: hour

●

Remarks	

2.13.4 Cellular Configuration

/sys/net_basic/cellular/

Description	Retrieves the cellular link information.
URL Structure	http://{ip address}/sys/net_basic/cellular
HTTP Method	GET：Returns the representation of all of network link information resource. PUT：Replace all of network link information resource. PATCH：Apply partial modifications to network link information resource.

GET	Request：
	GET /sys/net_basic/cellular
	
	[Example]:
	● Request: **GET /sys/net_basic/cellular**
	
	Content-type: application/json
	Response: 200 OK
	
	{
	"MdlNm": "Auto",
	"DevId": "2c7c:0125",
	"DevDesc": "EC20CEFA-512-STD(Quectel) QMI(wwan0) ",
	"CnntSt": false,
	"DialType": "ppp",
	"AcsPort": "/dev/ttyUSB0",
	"SptDlType": "ppp;QMI",
	"SwchTp": "",
	"SwchTag": "",
	"MstrSim": 0,
	"Urat": "",
	"sim": [
	{
	"Oprt": "",
	"NtMd": "",
	"APN": "",
	"DialNm": "",
	"PIN": "",
	"bAuth": false,
	"USR": "",
	"PSWD": ""
	},
	{
	"Oprt": "",
	"NtMd": "",
	"APN": "",
	"DialNm": "",
	"PIN": "",
	"bAuth": false,
	"USR": "",
	"PSWD": ""
	}
	],
	"DNS": {

<table>
<tr><td></td><td>"IsAuto": "false",
"DnsIP": ""
},
"cnnttype": {
"CnCkTp": "None",
"PInt": 0,
"PHost": {
"host0": "",
"host1": "",
"host2": ""
},
"MxSlcTm": 0,
"RbtTm": 0
}
}</td></tr>
<tr><td>PUT</td><td>Request：
PUT /sys/net_basic/cellular

[Example]:
● Request: PUT /sys/net_basic/cellular
Content-type: application/json
{
"MdlNm": "Auto",
"DevId": "2c7c:0125",
"DevDesc": "EC20CEFA-512-STD(Quectel) QMI(wwan0) ",
"CnntSt": false,
"DialType": "ppp",
"AcsPort": "/dev/ttyUSB0",
"SptDlType": "ppp;QMI",
"SwchTp": "",
"SwchTag": "",
"MstrSim": 0,
"Urat": "",
"sim": [
{
"Oprt": "",
"NtMd": "",
"APN": "",
"DialNm": "",
"PIN": "",
"bAuth": false,
"USR": "",
"PSWD": ""
},</td></tr>
</table>

<table>
<tr><td></td><td>
<pre>
{
"Oprt": "",
"NtMd": "",
"APN": "",
"DialNm": "",
"PIN": "",
"bAuth": false,
"USR": "",
"PSWD": ""
}
],
"DNS": {
"IsAuto": "false",
"DnsIP": ""
},
"cnnttype": {
"CnCkTp": "None",
"PInt": 0,
"PHost": {
"host0": "",
"host1": "",
"host2": ""
},
"MxSlcTm": 0,
"RbtTm": 0
}
}
</pre>
Response: 200 OK
<pre>
{
"Success": "Config netcard completed"
}
</pre>
</td></tr>
<tr><td>POST</td><td>None</td></tr>
<tr><td>PATCH</td><td>None</td></tr>
</table>

- Resource value definitions:

Field	Abbreviation	Data Type	Property	Description
Module name	MdlNm	String	R	Module name, e.g.: Auto
Device ID	DevId	String	R	0：enable 1：disable
Device description	DevDesc	String	R	Cellular device description

Connection status	CnnSt	Bool	RW	Connection status
Dial type	DialType	String	RW	Dial type, ppp or QMI
Access port	AcsPort	String	R	Cellular device access port, e.g.: /dev/ttyUSB0
Support dial Type	SptDlType	String	R	Supported dial type for current cellular device
Switch type*	SwchTp	String	RW	For dual-sims device, according this field to switch sim card
Switch tag*	SwchTag	String	RW	For dual-sims device, if switch type is tag, set tag name here.
Master sim*	MstrSim	String	RW	For dual-sims device, master sim card index, 1 or 2.
Cellular Operator	Oprt	String	RW	Cellular operator auto unicom cmnet telecom other
Network Type	NtMd	String	RW	Cellular network type Auto 4G(LTE_M1) 4G(LTE_NB1) 4G(LTE) 3G(UMTS) 2G(GSM) NBIOT
Access point Name	APN	String	RW	Access point name
Dial Number	DialNm	String	RW	Dial number
PIN Number*	PIN	String	RW	Reserved
Authentication	bAuth	Bool	RW	Authentication or not
User Name	USR	String	RW	User name for authentication
Password	PSWD	String	RW	Password for authentication

Connection Check Type	CnCkTp	String	RW	The type of check connection: "None"，"Ping"
Ping Interval	PInt	Number	RW	Ping interval. Unit: second
Ping Host	host	String	RW	Host name used to chec connection, support 3 ho names
Max Silence Time	MxSlcTm	Number	RW	Wait time for checkin connection. Unit: minute
Reboot On Failure Time	RbtTm	Number	RW	If connection failure time is exceeding the value, reboot edgelink device. Unit: hour
Remarks				

/sys/net_basic/cellular/status

Description	Retrieves the cellular network link information.
URL Structure	**http://{ip address}/sys/net_basic/cellular/status**
HTTP Method	GET：Returns the representation of all cellular information resource.

GET	Request：
	GET /sys/net_basic/cellular/status
	
	[Example]:
	● Request: **GET /sys/net_basic/cellular/status**
	
	Content-type: application/json
	Response: 200 OK
	[{
	"name": "#MOBILE_SIM",
	"type": "System Tag",
	"value": "0",
	"quality": "8080H",
	"timestamp": "1681956310.127103",
	"readwrite": "1"
	}, {
	"name": "#MOBILE_IP",
	"type": "System Tag",
	"value": "0.0.0.0",
	"quality": "8080H",
	"timestamp": "1681956310.127190",
	"readwrite": "1"
	}, {
	"name": "#MOBILE_MNO",
	"type": "System Tag",
	"value": "No Cellular Service",
	"quality": "8080H",
	"timestamp": "1681956310.127449",
	"readwrite": "1"
	}, {
	"name": "#MOBILE_MNT",
	"type": "System Tag",
	"value": "No Cellular Service",
	"quality": "8080H",
	"timestamp": "1681956310.127481",
	"readwrite": "1"
	}, {
	"name": "#MOBILE_MPN",
	"type": "System Tag",
	"value": "0",
	"quality": "8080H",
	"timestamp": "1681956310.127524",
	"readwrite": "1"
	}, {

```
        "name":  "#MOBILE_SIGNAL_QUALITY",
        "type":  "System Tag",
        "value":  "Not Connected",
        "quality": "8080H",
        "timestamp":  "1681956310.127542",
        "readwrite":  "1"
    }, {
        "name":  "#MOBILE_CSQ",
        "type":  "System Tag",
        "value":  "0",
        "quality": "8080H",
        "timestamp":  "1681956310.127562",
        "readwrite":  "1"
    }, {
        "name":  "#MOBILE_MCC",
        "type":  "System Tag",
        "value":  "0",
        "quality": "8080H",
        "timestamp":  "1681956310.127586",
        "readwrite":  "1"
    }, {
        "name":  "#MOBILE_MNC",
        "type":  "System Tag",
        "value":  "0",
        "quality": "8080H",
        "timestamp":  "1681956310.127607",
        "readwrite":  "1"
    }, {
        "name":  "#MOBILE_IMEI",
        "type":  "System Tag",
        "value":  "0",
        "quality": "8080H",
        "timestamp":  "1681956310.127697",
        "readwrite":  "1"
    }, {
        "name":  "#MOBILE_IMEI_RAW",
        "type":  "System Tag",
        "value":  "0",
        "quality": "8080H",
        "timestamp":  "1681956310.127721",
        "readwrite":  "1"
    }, {
        "name":  "#MOBILE_DATA_YEAR",
        "type":  "System Tag",
```

<table>
<tr><td></td><td>"value": "0.00 Bytes",
"quality": "8080H",
"timestamp": "1681956310.127817",
"readwrite": "1"
}, {
"name": "#MOBILE_DATA_MONTH",
"type": "System Tag",
"value": "0.00 Bytes",
"quality": "8080H",
"timestamp": "1681956310.127793",
"readwrite": "1"
}, {
"name": "#MOBILE_DATA_DAY",
"type": "System Tag",
"value": "0.00 Bytes",
"quality": "8080H",
"timestamp": "1681956310.127769",
"readwrite": "1"
}]</td></tr>
<tr><td>PUT</td><td>None</td></tr>
<tr><td>POST</td><td>None</td></tr>
<tr><td>PATCH</td><td>None</td></tr>
</table>

- Resource value definitions:

Abbreviation	Data Type	Property	Description
MOBILE_SIM	String	R	Cellular sim card status *SIM_ERROR* 0 error *SIM_READY* 1 MT is not pending for any password *SIM_PIN* 2 MT is waiting SIM PIN to be given *SIM_PUK* 3 MT is waiting SIM PUK to be given *SIM_PIN2* 4 MT is waiting SIM PIN2 to be given *SIM_PUK2* 5 MT is waiting SIM PUK2 to be given *SIM_PHNET_PIN* 6 waiting network personalization

				password to be given
			SIM_PHNETSUB_PIN	7 waiting network subset personalization password to be given
			SIM_PHSP_PIN	8 waiting service provider personalization password to be given
			SIM_PHCORP_PIN	9 waiting corporate personalization password to be given
			SIM_PHSIM_PIN	10 waiting phone to SIM/UICC card password to be given
			SIM_OTHER	99 unknown
MOBILE_IP	String	R	Cellular device IP	
MOBILE_MNO	String	R	Mobile Network Operator	
MOBILE_MNT	String	R	Mobile Network type	
MOBILE_MPN	String	R	Mobile phone number	
MOBILE_SIGNAL_QUALITY	String	R	Signal quality of mobile network	
MOBILE_CSQ	String	R	Received Signal Strength Indication	
MOBILE_MCC	String	R	Mobile Country Code, MCC	
MOBILE_MNC	String	R	Mobile Network Code, MNC	
MOBILE_IMEI	String	R	IMEI, International Mobile Equipment Identity	
MOBILE_IMEI_RAW	String	R	IMEI raw data, International Mobile Equipment Identity	
MOBILE_DATA_DAY	String	R	Cellular data, current day used traffic	
MOBILE_DATA_MONTH	String	R	Cellular data, current month used traffic	
MOBILE_DATA_YEAR	String	R	Cellular data, current year used traffic	
Remarks				

2.13.5 GPS Configuration

/sys/net_basic/cellular/gps

Description	Retrieves the GPS information.
URL Structure	**http://{ip address}/sys/net_basic/cellular/gps**
HTTP Method	GET：Returns the representation of GPS information. PATCH：Enable or disable GPS function.

GET	Request：
	GET /sys/net_basic/cellular/gps
	
	[Example]:
	● Request: **GET /sys/net_basic/cellular/gps**
	
	1. If GPS module is existed, and enabled
	
	Content-type: application/json
	Response: 200 OK
	{
	"EN": true,
	"LTTD": "0.00",
	"LNGTD": "0.00",
	"ALTTD": "0.00"
	}
	
	2. If GPS module is existed, and disabled
	
	Content-type: application/json
	Response: 200 OK
	{
	"EN": false,
	"LTTD": "0.00",
	"LNGTD": "0.00",
	"ALTTD": "0.00"
	}
	
	3. If GPS module is not existed, or dialed up failure
	
	Content-type: application/json
	Response: 200 OK

<table>
<tr><td></td><td>{
"gps_status": "Not connected"
}</td></tr>
<tr><td>PUT</td><td>None</td></tr>
<tr><td>POST</td><td>None</td></tr>
<tr><td>PATCH</td><td>Request：
PATCH /sys/net_basic/cellular/gps

Response: 200 OK

[Example]:
● Request: PATCH /sys/net_basic/cellular/gps

{"EN":true}</td></tr>
<tr><td colspan="2">●
● Resource value definitions:
<table><tr><th>Field</th><th>Abbreviation</th><th>Data Type</th><th>Property</th><th>Description</th></tr><tr><td>Enable</td><td>EN</td><td>BOOL</td><td>RW</td><td>Enable or disable this function.</td></tr><tr><td>Latitude</td><td>LTTD</td><td>String</td><td>R</td><td>Latitude information</td></tr><tr><td>Longitude</td><td>LNGTD</td><td>String</td><td>R</td><td>Longitude information</td></tr><tr><td>Altitude</td><td>ALTTD</td><td>String</td><td>R</td><td>Altitude information</td></tr></table></td></tr>
<tr><td>Remarks</td><td></td></tr>
</table>

2.14 Remoteit

/data/remotit

2.15 Web Page Setting

Description	Retrieves remote.it information.
URL Structure	**http://{ip address}/data/remoteit**
HTTP Method	GET：Returns the information of remote.it configuration information.

GET	Request：
	GET /data/remoteit
	
	[Example]:
	● Request: **GET /data/remoteit**
	Content-type: application/json
	Response: 200 OK
	{
	"remoteit_conf": "No config file"
	}

PUT	None
POST	None
PATCH	None
● Resource value definitions:	

Field	Abbreviation	Data Type	Property	Description

Remarks	

/sys/websettings

Description	Retrieves web page settings information.
URL Structure	**http://{ip address}/sys/websettings**
HTTP Method	GET：Returns the representation of web page settings information. PUT：Change web page settings.

<table>
<tr><td>GET</td><td>Request：
GET /sys/websettings

[Example]:
● Request: GET /sys/websettings

Content-type: application/json
Response: 200 OK
{
"web_refresh_interval": 1000
}</td></tr>
<tr><td>PUT</td><td>Request：
PUT /sys/websettings

Response: 200 OK

[Example]:
● Request: PUT /sys/ websettings

{
"web_refresh_interval": 1000
}</td></tr>
<tr><td>POST</td><td>None</td></tr>
<tr><td>PATCH</td><td>None</td></tr>
<tr><td colspan="2">● Resource value definitions:
<table>
<tr><th>Field</th><th>Abbreviation</th><th>Data Type</th><th>Property</th><th>Description</th></tr>
<tr><td>web_refresh_interval</td><td>web_refresh_interval</td><td>Number</td><td>RW</td><td>Tags refresh interval on web page
unit: millisecond</td></tr>
</table></td></tr>
<tr><td>Remarks</td><td></td></tr>
</table>