RCS API Document

1. User Guide

1.1 Introduction

a) **log:**

log file Folder. Do not change it.

b) **API:**

application for Linux. Ubuntu Desktop 16.04 x64 or higher is recommended.

c) **API.exe:**

Application for Window. Windows server 2008 x64 or higher is recommended.

d) **config.ini**

configuration for server network. There are three items can be modified:

LocalIP : IP address that can help user enter device web page. If you want to use it over intranet, an intranet IP address should be given here.

APIIP: IP address that can help user control devices via several application program interface, which will be introduced in this document. If you want to use it over intranet, an intranet IP address should be given here, which is the same to **LocalIP**, otherwise, "127.0.0.1" should be put here, in case someone else can access to your api by intranet and control your devices.

InPort: 3 Ports are used in API application.

- InPort: Device command port
- InPort + 1: API port
- InPort + 2: Device data port

Note that: if APIIP = 127.0.0.1 and InPort = 30001, the whole API URL is http://127.0.0.1:30002

e) **database.db**

Device data

f) **license:**

- Online: if the application can connect to internet, just contact us and then the license will generate and update online.

- Offline: if the application runs offline, provide ServerID and we will generate license for you. You should restart application after updating license Manually.
  *ServerID shows when application starts.

g) log.json:

log configuration. Do not touch that!

1.2 Usage

a) Windows:

Double click or right click and choose run.

b) Linux:

Run it directly!

c) If this application runs offline, please provide ServerID and contact us. We will generate license for you and you should restart application after updating license Manually.

2. API Document

All the APIs are called in the format of HTTP GET or POST.

APIURL = "http:// APIIP: InPort+1".

!!! You need to replace all Host with APIURL in each example request

1. Get Valid Time

Function：get license valid time.

Example:

Request:

```
GET /getValidTime HTTP/1.1
Host: 172.18.217.214:30002
Connection: keep-alive
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/73.0.3683.103 Safari/537.36
DNT: 1
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-US;q=0.7,zh-TW;q=0.6,und;q=0.5
```

Response:

```
HTTP/1.1 200 OK
Date: Thu, 25 Apr 2019 07:45:41 GMT
Content-Length: 52
Content-Type: text/plain; charset=utf-8

{
  "status": "success",
  "message": "2020-04-25 15:14:41"
}
```

Response Data:

status	message
success	valid data will be returned
failed	error information of license will be returned

2. Get All Device

Function: get all device in the database

Example:

Request:

```
GET /getAllDevice HTTP/1.1
Host: 172.18.217.214:30002
Connection: keep-alive
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/73.0.3683.103 Safari/537.36
DNT: 1
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-US;q=0.7,zh-TW;q=0.6,und;q=0.5
```

Response:

```
HTTP/1.1 200 OK
Date: Thu, 25 Apr 2019 07:53:56 GMT
Content-Length: 1285
Content-Type: text/plain; charset=utf-8

{
  "status": "success",
  "message": "[{\"Sn\":\"201160000022\",\"DeviceName\":\"524-B\",\"Mac\":\"de:6f:61:2a:05:99\",\"IP\":\"172.18.216.61
\",\"Port\":49555,\"Version\":\"1.7.2_1.7.0.1_1.3.4\",\"DeviceType\":\"\",\"ServerTime\":\"2019-04-25 15:53:53\",\"Serve
r1\":\"120.76.208.180:2010\",\"Server2\":\"172.18.217.214:2010\",\"Localip\":\"192.168.1.15\",\"Localtime\":\"2019-04-25
15:54:01\",\"Localtimezone\":\"+8\",\"LastEnterTime\":\"2019-04-19 14:24:59\"},{\"Sn\":\"202018001627\",\"DeviceName
\":\"DeviceName\",\"Mac\":\"c6:90:f3:a2:e4:91\",\"IP\":\"172.18.218.53\",\"Port\":39836,\"Version\":\"0.3.3_0.3.2_0.1.2
\",\"DeviceType\":\"\",\"ServerTime\":\"2019-04-18 23:04:28\",\"Server1\":\"123.123.123.123:200\",\"Server2\":\"127.0.0.
1:2000\",\"Localip\":\"192.168.1.127\",\"Localtime\":\"2010-04-05 10:37:36\",\"Localtimezone\":\"+8\",\"LastEnterTime
\":\"\"},{\"Sn\":\"200117003742\",\"DeviceName\":\"DeviceName\",\"Mac\":\"d2:66:b4:9d:6e:b7\",\"IP\":\"172.18.216.61
\",\"Port\":46504,\"Version\":\"1.7.2_1.7.0.1_1.3.4\",\"DeviceType\":\"\",\"ServerTime\":\"2019-04-19 21:21:48\",\"Serve
r1\":\"120.76.208.180:2010\",\"Server2\":\"172.18.217.214:2011\",\"Localip\":\"192.168.1.77\",\"Localtime\":\"2019-04-19
21:21:37\",\"Localtimezone\":\"+8\",\"LastEnterTime\":\"2019-04-19 19:36:51\"}]"
}
```

status	message
success	Device information will be returned in json format
failed	error information will be returned

Device information can be formatted by using this table.

Key	value
Sn	sSeries number
DeviceName	Device name
Mac	Mac
IP	Device extranet IP
Port	Device extranet port
Version	Device version
DeviceType	Device Type
ServerTime	The last time that server gets device heartbeat
Server1	Primary report server address
Server2	Secondary report server address
Localip	Device intranet IP
Localtime	Device time
Localtimezone	Device time zone
LastEnterTime	The last time that user enter server web page via API application

3. Delete All Device

Function: Delete all device from database

Example:

Request:

```
GET /deleteAllDevice HTTP/1.1
Host: 172.18.217.214:30002
Connection: keep-alive
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/73.0.3683.103 Safari/537.36
DNT: 1
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-US;q=0.7,zh-TW;q=0.6,und;q=0.5
```

Response:

```
HTTP/1.1 200 OK
Date: Thu, 25 Apr 2019 08:10:59 GMT
Content-Length: 33
Content-Type: text/plain; charset=utf-8

{
  "status": "success",
  "message": ""
}
```

status	message
success	" "
failed	error information will be returned

4. Get Device

Function: get a device info via a given Sn

Example:

Request:

```
GET /getDevice?SN=201160000022 HTTP/1.1
Host: 172.18.217.214:30002
Connection: keep-alive
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/73.0.3683.103 Safari/537.36
DNT: 1
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-US;q=0.7,zh-TW;q=0.6,und;q=0.5
```

You need to replace the sn with the device that you want to query.

Response:

```
HTTP/1.1 200 OK
Date: Thu, 25 Apr 2019 08:15:59 GMT
Content-Length: 435
Content-Type: text/plain; charset=utf-8

{
  "status": "success",
  "message": "{\"Sn\":\"201160000022\",\"DeviceName\":\"524-B\",\"Mac\":\"de:6f:61:2a:05:99\",\"I
P\":\"172.18.216.61\",\"Port\":49588,\"Version\":\"1.7.2_1.7.0.1_1.3.4\",\"DeviceType\":\"\",\"Se
rverTime\":\"2019-04-25 16:15:47\",\"Server1\":\"120.76.208.180:2010\",\"Server2\":\"172.18.217.2
14:2010\",\"Localip\":\"192.168.1.15\",\"Localtime\":\"2019-04-25 16:15:56\",\"Localtimezone
\":\"+8\",\"LastEnterTime\":\"\"}"
}
```

status	message
success	Device information will be returned in json format
failed	error information will be returned. For example: "SN is required", "Device is not exist" and so on.

Device information can be formatted by using this table.

Key	value
Sn	Series number
DeviceName	Device name
Mac	Mac
IP	Device extranet IP
Port	Device extranet port
Version	Device version
DeviceType	Device Type
ServerTime	The last time that server gets device heartbeat
Server1	Primary report server address
Server2	Secondary report server address
Localip	Device intranet IP
Localtime	Device time
Localtimezone	Device time zone
LastEnterTime	The last time that user enter server web page via API application

5. Delete Device

Function: delete a device from database via a given Sn

Example:

Request:

```
GET /deleteDevice?SN=201160000022 HTTP/1.1
Host: 172.18.217.214:30002
Connection: keep-alive
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/73.0.3683.103 Safari/537.36
DNT: 1
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-US;q=0.7,zh-TW;q=0.6,und;q=0.5
```

Response:

```
HTTP/1.1 200 OK
Date: Thu, 25 Apr 2019 08:20:55 GMT
Content-Length: 33
Content-Type: text/plain; charset=utf-8

{
  "status": "success",
  "message": ""
}
```

status	message
success	" "
failed	error information will be returned. For example: "SN is required", "Device is not exist" and so on.

6. Enter Device

Function: get an url that can be used to enter device web page via a given Sn

Example:

Request:

```
GET /enterDevice?SN=201160000022 HTTP/1.1
Host: 172.18.217.214:30002
Connection: keep-alive
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/73.0.3683.103 Safari/537.36
DNT: 1
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-US;q=0.7,zh-TW;q=0.6,und;q=0.5
```

Response:

```
HTTP/1.1 200 OK
Date: Thu, 25 Apr 2019 08:25:15 GMT
Content-Length: 143
Content-Type: text/plain; charset=utf-8

{
  "status": "success",
  "message": "http://172.18.217.214:30001/201160000022\u00261f027ec44ac615e8a43a06fbeb6a23a3318c8
c371612d2da8fc29164499d2a2e"
}
```

status	message
success	an url that can be used to enter device web page
failed	error information will be returned. For example: "SN is required", "Device is not exist" and so on.

Just copy this url into browser and you can access to device web page. Note that for security, this url is only active within 30 minutes.

7. Reboot Device

Function: reboot device via a given Sn

Example:

Request:

```
GET /rebootDevice?SN=200117003742 HTTP/1.1
Host: 172.18.217.214:30002
Connection: keep-alive
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/73.0.3683.103 Safari/537.36
DNT: 1
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-US;q=0.7,zh-TW;q=0.6,und;q=0.5
```

Response:

```
HTTP/1.1 200 OK
Date: Thu, 25 Apr 2019 08:57:25 GMT
Content-Length: 34
Content-Type: text/plain; charset=utf-8

{
  "status": "success",
  "message": "1"
}
```

status	message
success	an url that can be used to enter device web page
failed	error information will be returned. For example: "SN is required", "Device is not exist", "Device is offline", "Device is busy"

If "Device is busy" is returned, please wait for a minute, because someone else is operating this device.

8. Update Device

Function: update device via a given Sn. A FTP information is required so that device can download firmware from FTP and update automatically.

Example:

Request:

```
POST /updateDevice?SN=200117003742 HTTP/1.1
Host: 172.18.217.214:30002
Connection: keep-alive
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/73.0.3683.103 Safari/537.36
DNT: 1
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-US;q=0.7,zh-TW;q=0.6,und;q=0.5

{
    "ftpname": "          ",
    "ftppassword": "          ",
    "ftpip": "          ",
    "filename": "TD1001_1.7.2_1.7.0.1_1.3.4.tar.gz"
}
```

As shown below, FTP information is given in HTTP body in JSON format.

key	value
ftpname	FTP login name
ftppassword	FTP login password
ftpip	FTP address, in the format of "ip:port"
filename	Firmware name

Response:

```
HTTP/1.1 200 OK
Date: Thu, 25 Apr 2019 09:36:32 GMT
Content-Length: 47
Content-Type: text/plain; charset=utf-8


{
  "status": "success",
  "message": "update success"
}
```

status	message
success	update success
failed	error information will be returned. For example: "SN is required", "Device is not exist", "Device is offline", "Device is busy" "download failed" "Decompression failed" "MD5 check failed" "device connect failed"

If "Device is busy" is returned, please wait for a minute, because someone else is operating this device.

9. Configure Device

Function: config device via a given Sn. A configuration information and sync time operation is required. isSyncTime=true will sync device time. If you don't need, set isSyncTime=false

Example:

Request:

```
POST /configDevice?SN=200117003742&isSyncTime=true HTTP/1.1
Host: 172.18.217.214:30002
Connection: keep-alive
Cache-Control: max-age=0
Upgrade-Insecure-Requests: 1
User-Agent: Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36 (KHTML, like Gecko) Chrome/73.0.3683.103 Safari/537.36
DNT: 1
Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3
Accept-Encoding: gzip, deflate
Accept-Language: zh-CN,zh;q=0.9,en;q=0.8,en-US;q=0.7,zh-TW;q=0.6,und;q=0.5


{
    "UseDoubleBatch": "0",
    "ServerIP1": "127.0.0.1",
    "ServerPort1": "2011"
}
```

As shown below, config information is given in HTTP body in JSON format.

key	value
ServerIP	Primary report server IP
ServerPort	Primary report server Port
Directory	Primary report server Directory
ServerIP	Secondary report server IP
ServerPort	Secondary report server Port
Directory2	Secondary report server Directory

UseDoubleBatch	Secondary report server Status 0: Inactivate 1:Activate
ManagerServerIP	Remote Control Server IP
ManagerServerPort	Remote Control Server Port
TimeServerSelect	Time Server Select 0: Primary report server 1: Secondary report server 2: NTP time server
NTPtimeServerIP	NTP time server IP
NTPtimeServerPort	NTP time server Port

Response:

```
HTTP/1.1 200 OK
Date: Thu, 25 Apr 2019 09:54:36 GMT
Content-Length: 47
Content-Type: text/plain; charset=utf-8

{
  "status": "success",
  "message": "config success"
}
```

status	message
success	config success
failed	error information will be returned. For example: "SN is required", "Device is not exist", "Device is offline" , "Device is busy"

If **"Device is busy"** is returned, please wait for a minute, because someone else is operating this device.