1 Overview

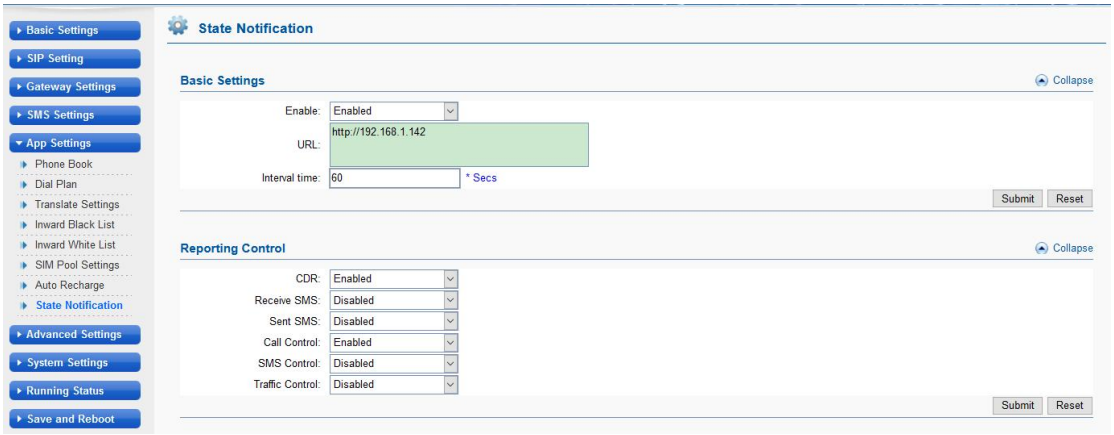
This document specifies status reports of ejoin device,include port status,device status,call status report and receive SMS.

The protocol based on HTTP POST request, it provide multitask and status report by JSON array.About JSON array format,please refer its standardization state.

2 Copyright Notice

3 Device Configuration (example)

Notice: the minimum interval is 30s



4 Status Notification

Status notification content is controlled by reporting control switch and related function switch.

1. CDR: need enable CDR report (default enable);
2. SMS receive: need enable received sms report;
3. SMS sent: need enable send sms report;

4. Call control data: need enable call control data report(default enable),also need enable related function, as follow:
   a) Call duration control need configured as FLASH;
   b) Call numbers control need configured as FLASH;
   c) Talk number control need configured as FLASH;
5. SMS control data: need enable SMS control data report, and enable SMS control function;
6. Traffic control data: need enable traffic control data report;

After setting up the report control, the device sends the device status to the configured URL by HTTP POST request.

1. If the status of a port on the device have changed, reports port status
2. The configured interval was reached,report device status
3. Device receives SMS, report SMS content
4. Device send SMS, report SMS content
5. When the device have call, report call billed

4.1 Port Status

When the status of a port on the device have changed, instantly send the data of type port-status to the server.

Status message (information in HTTP message Body)is a JSON array string that comprised of port status. Parameter Content-Type in HTTP head should set to “application/json;charset=utf-8”.

{"type":"port-status", "port":"1.02", "sim":"", "seq":1, "st":11, "imei":"353689530707903", "iccid":"", "imsi":"", "sn":"", "opr":"0 CHINA MOBILE", "bal":"0.00", "sig":0, "tot_dur":"0/-1", "mon_dur":"0/-1", "day_dur":"0/-1"}

Components state:

Parameter	Type	Description	Default	Required
type	Strin	Message type	N	Y (port-status)
Port	String	Describe the current working	N	Y

		port and SIM slot,like 1.01,1.02.....32.04		
seq	Int	The port is incremented from port 1		
st	String	Port status code + detail 0: No SIM card 1: Exist idel SIM card 2: Registering 3: Registered 4: call connected 5: no balance or alarm 6: Register failed 7: SIM card locked by device 8: SIM card locked by operator 9: Recognize SIM card error 11: Card Detected 12: User locked 13: Port inter-calling 14: Inter-calling holding	N	Y
active	String	0: Not currently card 1: Currently card	N	Y
Bal	Floating point	SIM card balance (yy.mm)	N	Y
opr	String	SIM card operator name and ID valid while parameter “st” equal 3 or 4	None	N
sn	String	SIM number	None	N
imei	String	IMEI of module	None	N
imsi	String	IMSI of SIM card	None	N
iccid	String	ICCID of SIM card	None	N
sig	String	Signal of module	None	N
tot_dur	String	Accumulated call duration Statistics "tot_dur":"n/m",n	None	N

		Represents the number of minutes Used, m represents the total number of minutes, and -1 represents unlimited		
mon_dur	string	Monthly Call duration statistics	None	N
day_dur	string	Daily call duration statistics	None	N
mcn_tot	string	Accumulative Total call number "mcn_tot":"n/m",n represents the number of number used,m Represents the total number of configured, -1 represents unlimited	None	N
mcn_mon	string	Monthly call number	None	N
mcn_day	string	Daily call number	None	N
mtn_tot	string	Accumulative total call talk number "mtn_tot":"n/m",n represents talk number of used,m represents total number of configured,-1 represents unlimited	None	N
mtn_mon	string	Monthly talk number	None	N
mtn_day	string	Daily talk number	None	N
smsctl_tot	string	Accumulative total send SMS "smsctl_tot":"n/m",n represents number of SMS sent, m represent The number SMS of can be send, -1 represents unlimited	None	N
smsctl_mon	string	Monthly send SMS	None	N
smsctl_day	string	Daily send SMS	None	N

dataflow_tot	string	Accumulative total traffic(MB)	None	N
dataflow_day	string	Daily total traffic(MB)	None	N
dataflow_24hours	string	Total traffic within the last 24 hours(MB)	None	N
dataflow_1hour	string	Total traffic within the Last 1 hours(MB)	None	N
dataflow_last	string	The traffic consumed by the Finally access(MB)	None	N
dataflow_url	string	The last URL accessed(MB)	None	N

4.2 Device Status

The device periodically sends the device status of type dev-status to the server.

dev-status message(information in HTTP message Body) is a JSON array string that comprised of ports status. Parameter Content-Type in HTTP head should set to "application/json;charset=utf-8".

{"type":"dev-status","seq":3,"expires":60000,"mac":"00-30-f1-00-6d-b1","ip":"192.168.1.44","ver":"532-600-999-041-100-000","max-ports":32,"max-slot":4,"status":[{"port":"1.02","sim":"","seq":11,"st":3,"imei":"353689530707903","iccid":"89860042191782899541","imsi":"460000990123698","sn":"","opr":"46000 CHINA MOBILE","bal":"0.00","sig":31,"tot_dur":"1/-1","mon_dur":"1/-1","day_dur":"1/-1"},{"port":"2.02",…},…,{"port":"32.02",…}]}

Components state:

Parameter	Type	Description	Default	Required
Type	String	Message type.	None	Y (dev-status)
seq	Int	Device status message sequence number, start from	None	Y

		1.		
expires	Int	Dev-status sending period.	180s	N
mac	String	Device MAC.	None	Y
ip	String	Device IP address.	None	Y
ver	String	Device software version	None	N
max-ports	Int	Total ports of device.	None	Y
max-slots	String	Total SIM slots of device.	1	N
status	array	Status of device port.	None	Y

4.3 SMS Receives

When the device receives the SMS, it will send a report with type reve-sms to the server.

dev-status message(information in HTTP message Body) is a JSON array string that comprised of ports status. Parameter Content-Type in HTTP head should set to "application/json;charset=utf-8".

{"type":"recv-sms","sms_num":1,"sms":[[0,"1.02",1548407412,"8613715266978","","U2VuZGVyOiA4NNTEwOAzDQpTTVNDOiA4NjEzODAwNzU1NTAwDQpTQ1RTOiAxOTAxMjUDQp5YXE="]]}

Components state:

Parameter	Type	Description	Default	required
type	String	Message type	None	Y (recv-sms)
sim_src	int	The source of SIM card: ● 0 - local card; ● 1 - remote card;	0	Y
sms_num	String	SMS number	None	N
sms	Array	SMS array	None	N

The sms itself is also an array (to save network traffic), in turn:

[0]: the symbol whether is a deliver report,0: SMS, 1: deliver report

[1]: receive port and slot: values are related to the sin_src field

When the sim_src is local card, value is “port”.”local slot”,

Example 1.01, 2.02, …,32.04, among 1.01 .02 .03 .04 each represent A B C D;

When sim_src is remote card, value is “port.simpool.slot”,example “1.sp128.016”

[2] : the timestamp when the device received the SMS/report

[3] : sender(if it’s deliver reports, is the message service center number)

[4]: receiver (if it’s deliver reports, is the receiver of the original SMS)

[5]: SMS content: the contents are related to the value [0],if it’s an Ordinary SMS,the default is BASE64 encoding, and it need to decoded;if it’s an deliver report,the content is “n xxxx”, among n is deliver report status code,0 represent succeed,other value are dependent on the communication module used, xxxx is the operator timestamp.

4.4 Call Records

After the device makes a call, it will send a report of type CDR to the server.

dev-status message(information in HTTP message Body) is a JSON array string that comprised of ports status. Parameter Content-Type in HTTP head should set to “application/json;charset=utf-8”.

{"type":"cdr", "port":"1.02", "seq":10, "st":3, "imei":"353689530707903", "iccid":"89860042191782899541","imsi":"460000990123698","bal":"0.00","mac":"00-30-f1-00-6d-b1","ip":"192.168.1.44","sip_usr":"","cid":"YTk5YTkxMzE2OTkxZjIzNjVkNWMwZGI1YThkOTc3NjM.","cdir":"MT","caller":"23","callee":"10086", "begin":1548407333, "alert":1548407336, "answer":1548407336, "update":0, "end":1548407343, "reason":"201 Caller Hangup", "gw_reason":"0 "}

Components state:

Parameter	Type	Description	Default	required
type	String	Message type	None	Y (cdr)
port	string	Port and slot, Example1.01,2.02, …,32.04,among 1.01 .02 .03 .04 each represent A B C D;	None	Y
seq	Int	Device status message Sequence number ,start from 1.When reported device Status, not Sequence number		
st	string	Port dtatus code + reason describe	None	Y
bal	Floating point	Port balance(yy.mm)	None	Y
mac	string	Device MAC	None	Y
opr	string	The SIM card registered operator ID and name ,The value of status is 3/4 valid	None	N
sn	string	SIM number	None	N
imei	string	Module IMEI	None	N
imsi	string	SIM card IMSI	None	N
iccid	string	SIM card ICCID	None	N
sig	string	signal	None	Y
sip_usr	string	SIP account	None	N
cid	string	SIP protocol CALL ID	None	Y
cdir	string	Call direction, MT for outgoing,MO for incoming	None	Y
caller	string	Caller number	None	Y
callee	string	Callee number	None	Y
begin	string	Call start time ,time stamp	None	Y
alert	string	Ring time	None	N

answer	string	call time	None	N
update	string	Update time,after the call is connected, A CDR is sent to the Server every minute	None	N
end	string	End time	None	Y
reason	string	SIP hang up code	None	Y
gw_reason	string	Module hang up code	None	Y

4.5 SMS Sends

When the device send SMS, it will send a report with type reve-sms to the server.

dev-status message(information in HTTP message Body) is a JSON array string that comprised of ports status. Parameter Content-Type in HTTP head should set to "application/json;charset=utf-8".

{"type":"sent-sms","mac":"00-30-f1-00-6d-b1","sim_src":"0","port":"2.01", "seq":18, "sms_tid":2, "src_type":2, "src_ip":"", "src_port":0, "status":"0", "time":1562235746, "dur":330, "recver":"12122222222", "smsc":"", "charset":"UTF-8", "data":"test sms"}

Components state:

Parameter	Type	Description	Default	Required	Notes
type	string	Message type, Values is sent-sms	None	Y	
sim_src	Int	The source of SIM card: ● 0 - local card; ● 1 - remote card	0	Y	

port	String	Port and slot, values are Related to the sim_src field When the sim_src is local card,value is “port”.” local slot”, Example1.01, 2.02, …, 32.04,among 1.01 .02 .03 .04 each represent A B C D; When sim_src is remote Card, value is “port.simpool.slot” example “1.sp128.016”	None	Y	
seq	Int	Device status message Sequence number start from 1. When reported device Status, not Sequence number		Y	
sms_tid	Int			Y	
src_type	Int	SMS submitter type 0：ETMS 1: EIMS 2: WEB 3: HTTP 4: SMPP 5: SIP	None	Y	
src_ip	String	SMS submitter IP	“”	N	
src_port	Int	SMS submitter port		N	

status	String	The status code and describe to send SMS “code desc” code=0： succeed		Y	
time	Int	The time stamp to send SMS （UTC）		Y	
dur	Int	The time it consume to send SMS(ms)	0	Y	
receiver	String	Receiver		Y	
smsc	String	SMS service center number	“”	N	
charset	String	SMS unicode UTF-8|BASE64	UTF-8	N	BASE64: Base64 encode the Unicode source and remove the newline
data	String	SMS content		Y	