



# **BOSS API Manual**

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## About This Document

This document is intended for software developers writing code to work with the Baicells Business & Operations Support System (BOSS) using Application Programming Interface (API). BOSS is a CloudCore application for managing broadband wireless access subscribers. Some sections of this document pertain only to Local (private network) OMC+BOSS environments, depending on the software version, and are noted as such. This version of the manual is based on BOSS version 6.0.

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## Support Resources

- **Documentation** - Baicells product data sheets, this document, and other technical manuals may be found at Baicells > Resources > [Documentation](#).
- **Support** - How to open a support ticket, process an RMA, and the Support Forum are at Baicells > [Support](#).

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# 1. API Overview

The Baicells Application Programming Interface (API) is a Representational State Transfer, or RESTful, API that accepts and receives JavaScript Object Notations (JSON). The API utilizes common Hypertext Transfer Protocol (HTTP) methods such as GET, POST, PATCH, and DELETE.

The Baicells API header is added to the basic HTTP authentication mode via HTTP requests, provided there is prior agreement with partners on a common user name and password. Permissions for the API are inherited from the user account.

When submitting a request using basic HTTP authentication, you must also include a header for “Content-Type” that specifies “application/json”; a header for “cloud\_key” that specifies the operator’s cloud\_key; and a header for “Authorization” that specifies the encoded value of “username:password” through the base64.

Table 1-1 provides the result\_code list for when an operation fails.

**Table 1-1: Result\_Code List**

Code	Message
4000	sub_id field is required
4001	sub_idConflict
4002	Subscribers do not exist
4003	Subscribers do not bind imsi
4004	Subscribers do not bind service plan
4005	Subscribers already exist
4006	Subscriber already binds service plan
4007	Subscriber already binds imsi
4008	Session_id field is required
4009	Subscriber does not match this cloud_key
4010	Sub_id_list field is required
4011	Subscribers do not exist or do not bind imsi and service plan
4012	Number of subscribers is too many
4100	Ip field is required
4101	Ip is not a valid IP address
4102	apn_profile field is required
4103	APN does not exist
4104	APN does not contain this IP address
4105	Bind relation (Subscribers-apn-ip) does not exist
4106	Bind relation already exists

4107	Bind relation does not exist
4108	apn_name is required
4109	Data too long for apn_name
4110	apn_ambr_ul is required
4111	apn_ambr_ul format error
4112	apn_ambr_dl is required
4113	apn_ambr_dl format error
4200	Service_plan_id field is required
4201	Service_plan_id conflict
4202	Service plan does not exist
4203	New_Service_plan_id field is required
4205	Service_plan_name field is required
4206	datanode is required
4207	Service plan does not match this cloud_key
4300	IMSI field is required
4301	IMSI format error
4302	IMSI has been used
4303	Please deactivate the subscriber before unbinding imsi!
4401	Uplink field is required
4402	Downlink field is required
4403	Uplink must be a number
4404	Downlink must be a number
4501	Sub_list field is required
4502	Sub_list format error
4503	Exceeded 200 records limit
4601	Configure 16 IP addresses at most
4602	url field is required
4603	url_ip field is required
4701	Begin time is required
4702	End time is required
4703	Incorrect time format
4704	Query usage by hour size. Time interval should not exceed 31 days.
4705	Query CDR detail. Time interval should not exceed 7 days.

5001	System error
5002	cloud_key is required in request header
5003	cloud_key does not exist
5004	User or password error
5005	User does not match this cloud_key
Code	Message

## 2. API List

North American CloudCore API URL: <http://baiboss.cloudapp.net:47081/baicellsapi>

### 2.1 Subscriber Category

#### 2.1.1 Query Subscriber

##### 1) Detail

POST <http://ipaddr:port/baicellsapi/customers/query>

##### param

Field	Data Type	Description
session_id	String	Business serial number
imsi	String	IMSI

##### Example request:

```
POST /baicellsapi/customers/query HTTP/1.1
```

```
Content-Type: application/json
```

```
{
  "session_id": "2016123456",
  "imsi": "460010000000001"
}
```

##### Success 200

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200



available	boolean	true:the imsi can be user false:the imsi cannot be user
sub_id	String	The internal ID of the subscriber
sub_name	String	The name of the subscriber
id_num	String	The ID number of the subscriber
phone_number	String	The phone number of the subscriber
email	String	The email address of the subscriber
address	String	The address of the subscriber
service_plan_id	String	The subscriber bound service plan
sub_status	String	The status of the subscriber "0":active "1":deactive

**Example response:**

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "result_code": "200",
  "available": false,
  "sub_id": "20161201",
  "sub_name": "test name",
  "id_num": "123456",
  "phone_number": "123456",
  "email": "test@test.com",
  "address": "test address",
  "service_plan_id": "2016001",
  "sub_status": "0"
```

} or

```
{
  "session_id": "2016123456",
  "result_code": "200",
  "available": true
}
```

## 2.1.2 Create Subscriber

### 1) Detail

POST <http://ipaddr:port/baicellsapi/customers/create>

#### param

Field	Data Type	Description
session_id	String	Business serial number
sub_id	String	The internal ID of the subscriber
sub_name	String	The name of the subscriber
id_num	String	The ID number of the subscriber
phone_number	String	The phone number of the subscriber
email	String	The email of the subscriber
address	String	The address of the subscriber

#### Example request:

POST /baicellsapi/customers/create HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "sub_id": "20161201",
  "sub_name": "test name",
  "id_num": "123456",
  "phone_number": "123456",
  "email": "test@test.com",
  "address": "test address"
}
```

#### Success 200

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

**Example response** - If the success return status code is 200, it is applicable to all interfaces:

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "result_code": "200",
  "message": "Success"
}
```

#### Error 422

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code:4000/4001
message	String	Message: sub_id conflict

**Example response** - If the fail return status code is 422, it is applicable to all interfaces:

HTTP/1.1 422 OK

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "result_code": "4001",
  "message": "sub_id conflict"
}
```

### 2.1.3 Bind Service Plan

#### 1) Detail

POST <http://ipaddr:port/baicellsapi/customers/bindservice>

#### param

Field	Data Type	Description
session_id	String	Business serial number
sub_id	String	The internal ID of the subscriber

service_plan_id	String	The internal ID of the service plan
-----------------	--------	-------------------------------------

**Example request:**

POST /baicellsapi/customers/bindservice HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "sub_id": "20161201",
  "service_plan_id": "2016001"
}
```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

**Example response:**

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code:4000/4002/4200/4202
message	String	Message

**Example response:**

HTTP/1.1 422 OK

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "result_code": "4002"
  "message": "subscriber dose not exist"
}
```

## 2.1.4 Bind IMSI

### 1) Detail

POST <http://ipaddr:port/baicellsapi/customers/bindimsi>

#### param

Field	Data Type	Description
session_id	String	Business serial number
sub_id	String	The internal ID of the subscriber
imsi	String	IMSI

#### Example request:

POST /baicellsapi/customers/bindimsi HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "sub_id": "20161201",
  "imsi": "460010000000001"
}
```

#### Success 200

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

#### Example response:

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4000/4002/4300/4301/4302
message	String	Message

**Example response**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "4301"
  "message": "IMIS formate error"
}
```

**2.1.5 Unbind IMSI****1) Detail**

POST <http://ipaddr:port/baicellsapi/customers/unbindimsi>

**param**

Field	Data Type	Description
session_id	String	Business serial number
sub_id	String	The internal ID of the subscriber

**Example request:**

```
POST /baicellsapi/customers/unbindimsi HTTP/1.1
Content-Type: application/json
{
```

```

    "session_id": "2016123456",
    "sub_id": "20161201"
}

```

### Success 200

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

### Example response:

```

HTTP/1.1 200 OK
Content-Type: application/json
{
    "session_id": "2016123456",
    "result_code": "200",
    "message": "Success"
}

```

### Error 422

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4000/4002/5001
message	String	Message

### Example response:

```

HTTP/1.1 422 OK
Content-Type: application/json
{
    "session_id": "2016123456",
    "result_code": "4002",
    "message": "Subscriber dose not exist"
}

```

## 2.1.6 Activate Subscriber

### 1) Detail

POST `http://ipaddr:port/baicellsapi/customers/activate`

#### param

Field	Data Type	Description
session_id	String	Business serial number
sub_id	String	The internal ID of the subscriber

#### Example request:

POST `/baicellsapi/customers/activate` HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "sub_id": "20161201"
}
```

#### Success 200

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

#### Example response:

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "result_code": "200",
  "message": "Success"
}
```



**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4000/4002/4003/4004/5001
message	String	Message

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "4002",
  "message": "Subscriber dose not exist"
}
```

**2.1.7 Deactivate Subscriber****1) Detail**

POST <http://ipaddr:port/baicellsapi/customers/deactivate>

**param**

Field	Data Type	Description
session_id	String	Business serial number
sub_id	String	The internal ID of the subscriber

**Example request:**

```
POST /baicellsapi/customers/deactivate HTTP/1.1
Content-Type: application/json
{
  "session_id": "2016123456",
  "sub_id": "20161201"
}
```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

**Example response:**

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4000/4002/5001
message	String	Message

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "4002",
  "message": "Subscriber dose not exist"
}
```

**2.1.8 Change Service Plan****1) Detail**

POST <http://ipaddr:port/baicellsapi/customers/update>

**param**

Field	Data Type	Description
session_id	String	Business serial number
sub_id	String	The internal ID of the subscriber
new_service_plan_id	String	The new service plan id

**Example request:**

POST /baicellsapi/customers/update HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "sub_id": "20161201",
  "new_service_plan_id": "2016001"
}
```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

**Example response:**

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4000/4002/4202/5001

message	String	Message
---------	--------	---------

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "4002",
  "message": "Subscriber dose not exist"
}
```

**2.1.9 Change Speed (Uplink and Downlink)****1) Detail**

POST <http://ipaddr:port/baicellsapi/customers/updateuplink>

**param**

Field	Data Type	Description
session_id	String	Business serial number
sub_id	String	The internal ID of the subscriber
uplink	int	Uplink speed.Unit:MB
downlink	int	Downlink speed.Unit:MB

**Example request:**

```
POST /baicellsapi/customers/updateuplink HTTP/1.1
Content-Type: application/json
{
  "session_id": "2016123456",
  "sub_id": "20161201",
  "downlink": 5,
  "uplink": 5
}
```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

**Example response:**

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4000/4002/4401/4402/4403/4404/5001
message	String	Message

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "4002",
  "message": "Subscriber dose not exist"
}
```

**2.1.10 Bulk Activate Subscribers****1) Detail**

POST <http://ipaddr:port/baicellsapi/customers/bulkactivate>

**param**

Field	Data Type	Description
session_id	String	Business serial number
sub_id	String	The internal ID of the subscriber

**Example request:**

POST /baicellsapi/customers/bulkactivate HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "data": [
    "20161201",
    "20161202",
    "20161203",
    "20161204"
  ]
}
```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

**Example response:**

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 5001
message	String	Message

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "5001",
  "message": "System error"
}
```

**2.1.11 Bulk Deactivate Subscribers****1) Detail**

POST <http://ipaddr:port/baicellsapi/customers/bulkdeactivate>

**param**

Field	Data Type	Description
session_id	String	Business serial number
sub_id	String	The internal ID of the subscriber

**Example request:**

```
POST /baicellsapi/customers/bulkdeactivate HTTP/1.1
Content-Type: application/json
{
  "session_id": "2016123456",
  "data": [
    "20161201",
    "20161202",
    "20161203",
    "20161204"
  ]
}
```

```
    ]
}
```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

**Example response:**

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 5001
message	String	Message

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "5001",
  "message": "System error"
}
```



## 2.1.12 Query Subscriber by sub\_id

### 1) Detail

POST <http://ipaddr:port/baicellsapi/customers/querybyid>

#### param

Field	Data Type	Description
session_id	String	Business serial number
sub_id	String	The ID number of the subscriber

#### Example request:

POST /baicellsapi/customers/querybyid HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "sub_id": "20161201"
}
```

#### Success 200

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
imsi	String	imsi
sub_id	String	The internal ID of the subscriber
sub_name	String	The name of the subscriber
id_num	String	The ID number of the subscriber
phone_number	String	The phone of the subscriber
email	String	The email of the subscriber
address	String	The address of the subscriber
service_plan_id	String	The subscriber bound service plan
sub_status	String	The status of the subscriber: "0":active "1":deactive
up_rate	String	Up speed of bind service plan

down_rate	String	Down speed of bind service plan
apn_info_list	JSON String	Bind apn ip information

**Example response:**

```

HTTP/1.1 200 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "200",
  "imsi": "460010000000001",
  "sub_id": "20161201",
  "sub_name": "test name",
  "id_num": "123456",
  "phone_number": "123456",
  "email": "test@test.com",
  "address": "test address",
  "service_plan_id": "2016001",
  "sub_status": "0",
  "up_rate": "5",
  "down_rate": "10",
  "apn_info_list": [{"apn_name": "apn1", "apn_ambr_ul": 4, "apn_ambr_dl": 8,
"ipv4": "192.168.1.10"}]
}

```

**2.1.13 Bind APN and Static IP**

NOTE: Not supported in North America CloudCore, but is supported in a Local OMC+BOSS environment

**1) Detail**

POST <http://ipaddr:port/baicellsapi/customers/bindapnip>

**param**

Field	Data Type	Length	Description
session_id	String		Business serial number

sub_id	String		The internal ID of the subscriber
apn_name	String	100	Apn name
apn_ambr_ul	int	7	apn_ambr_ul
apn_ambr_dl	int	7	apn_ambr_dl
type_of_context	String	1	Is default APN: 0-normal,1-default
static_ip_setting	String	1	Bind the static IP: 0-no, 1-yes
ip_addr	String	40	IP address  <b>NOTE: If you do not set a static IP, this parameter should be set to empty or you should delete the parameter.</b>

**Example request:**

```
POST /baicellsapi/customers/bindapnip HTTP/1.1
```

```
Content-Type: application/json
```

**1. Set static ip addr param:**

```
{
  "session_id": "2016123456",
  "sub_id": "2017062201",
  "apn_name": "apn1",
  "apn_ambr_ul": 4,
  "apn_ambr_dl": 8,
  "type_of_context": 0,
  "static_ip_setting": 1
  "ip_addr": "192.168.1.10"
}
```

**2. Do not set static ip addr param:**

```
{
  "session_id": "2016123456",
  "sub_id": "2017062201",
  "apn_name": "apn1",
  "apn_ambr_ul": "4",
  "apn_ambr_dl": "8"
  "type_of_context": 0,
  "static_ip_setting": 0
}
```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

**Example response:**

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4108/4109/4110/4111/4112/4113
message	String	Message

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "4108"
  "message": "apn_name is required"
}
```

## 2.1.14 Remove APN and Static IP

NOTE: Not supported in North America CloudCore, but is supported in a Local OMC+BOSS environment

### 1) Detail

POST <http://ipaddr:port/baicellsapi/customers/removeapnip>

#### param

Field	Data Type	Description
session_id	String	Business serial number
sub_id	String	The internal ID of the subscriber
apn_name	String	Apn name
apn_ambr_ul	String	apn_ambr_ul
apn_ambr_dl	String	apn_ambr_dl

#### Example request:

POST /baicellsapi/customers/removeapnip HTTP/1.1

Content-Type: application/json

#### 1. Set static ip addr param:

```
{
  "session_id": "2016123456",
  "sub_id": "2017062201",
  "apn_name": "apn1",
  "apn_ambr_ul": "4",
  "apn_ambr_dl": "8"
}
```

#### Success 200

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

**Example response:**

```

HTTP/1.1 200 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "200",
  "message": "Success"
}

```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4000/4108/
message	String	Message

**Example response:**

```

HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "4108"
  "message": "apn_name is required"
}

```

## 2.1.15 Modify Subscriber

**1) Detail**

POST <http://ipaddr:port/baicellsapi/customers/modify>

**param**

Field	Data Type	Description
session_id	String	Business serial number
sub_id	String	The internal ID of the subscriber
sub_name	String	The name of the subscriber

id_num	String	The ID number of the subscriber
phone_number	String	The phone of the subscriber
email	String	The email of the subscriber
address	String	The address of the subscriber

**Example request:**

POST /baicellsapi/customers/modify HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "sub_id": "20161201",
  "sub_name": "test name",
  "id_num": "123456",
  "phone_number": "123456",
  "email": "test@test.com",
  "address": "test address"
}
```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Subscriber does not exist

**Example response:**

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code:4000/4002/5001
message	String	Message: sub_id conflict

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "4002",
  "message": "Subscribers dose not exist"
}
```

**2.1.16 Delete Subscriber****1) Detail**

POST <http://ipaddr:port/baicellsapi/customers/delete>

**param**

Field	Data Type	Description
session_id	String	Business serial number
sub_id	String	The internal ID of the subscriber

**Example request:**

```
POST /baicellsapi/customers/delete HTTP/1.1
Content-Type: application/json
{
  "session_id": "2016123456",
  "sub_id": "20161201"
}
```



**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Subscriber does not exist

**Example response:**

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code:4000/4002/5001
message	String	Message: sub_id conflict

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "4002",
  "message": "Subscribers dose not exist"
}
```

**2.1.17 Bulk Create Subscriber****1) Detail**

POST <http://ipaddr:port/baicellsapi/customers/bulkcreate>

**param**

Field	Data Type	Description
session_id	String	Business serial number
service_plan_id	String	The service of the subscriber
sub_list	list	The collection of user list
sub_id	String	The internal ID of the subscriber
imsi	String	The imsi of the subscriber
id_num	String	The ID number of the subscriber
phone_number	String	The phone number of the subscriber
email	String	The email of the subscriber
address	String	The address of the subscriber

**Example request:**

POST /baicellsapi/customers/create HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "service_plan_id": "2016001",
  "sub_list": [{
    "sub_id": "20161201",
    "sub_name": "test name",
    "imsi": "860100011223344",
    "id_num": "123456",
    "phone_number": "123456",
    "email": "test@test.com",
    "address": "test address"
  },
  {
    "sub_id": "20161202",
    "sub_name": "test name2",
    "imsi": "860100011223355",
    "id_num": "123457",
    "phone_number": "1234567",
    "email": "test2@test.com",
```

```

        "address": "test2 address"
    } ]
}

```

### Success 200

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success
total	int	The total number of these operations
successful quantity	Int	The number of successes
unsuccessful quantity	int	The number of failures
success_list	list	The list of successes
fail_list	list	The list of failures
sub_id		The internal ID of the subscriber
imsi		The imsi of the subscriber
result_message		Error message

#### 1. Parameters format error returned information:

##### Example response:

```

HTTP/1.1 422

{
    "session_id": "198575111866",
    "result_code": "4503",
    "message": "exceed 200 records limit."
}

```

#### 2. Parameters format pass, return operations details:

```

HTTP/1.1 200

{
    "session_id": "198575111866",
    "total": 200,
    "successful quantity": 29,

```

```
"unsuccessful quantity": 171,
"success_list": [
  {
    "sub_id": "66268756728",
    "imsi": "601011010167723"
  },
  {
    "sub_id": "66268751752",
    "imsi": "601011010167747"
  }...
],
"fail_list": [
  {
    "sub_id": "66268766671",
    "imsi": "601011000166666",
    "result_code": "4302",
    "result_message": "imsi has been used."
  }
  {
    "sub_id": "66268866706aa",
    "imsi": "601011000166701",
    "result_code": "5001",
    "result_message": "system error."
  },
  {
    "sub_id": "66268866707",
    "imsi": "601111000167702",
    "result_code": "4001",
    "result_message": "sub_id conflict."
  }...
]
}
```

## 2.1.18 Subscriber Redirection

### 1)Detail

POST <http://ipaddr:port/baicellsapi/customers/redirect>

#### param

Field	Data Type	Description
session_id	String	Business serial number
Sub_id_list	JSONArray	Sub_id list

#### Example request:

POST http://ipaddr:port/baicellsapi/customers/redirect HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "198575111866",
  "sub_id_list": ["AX1234", "AX1235", "AX1236"]
}
```

#### Success 200

Field	Data Type	Description
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

#### Example response:

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "result_code": "200",
  "message": "Success"
}
```

#### Error 422

Field	Data Type	Description
result_code	String	Error return code: 4010/4011

message	String	Message:sub_id conflict
---------	--------	-------------------------

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "result_code": "4001",
  "message": "some error"
}
```

**2.1.19 Subscriber Cancel Redirection****1)Detail**

POST <http://ipaddr:port/baicellsapi/customers/cancelredirect>

**param**

Field	Data Type	Description
session_id	String	Business serial number
Sub_id_list	String	Sub_id list

**Example request:**

```
POST http://ipaddr:port/baicellsapi/customers/cancelredirect HTTP/1.1
Content-Type: application/json
{
  "session_id": "198575111866",
  "sub_id_list": ["AX1234", "AX1235", "AX1236"]
}
```

**Success 200**

Field	Data Type	Description
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

**Example response:**

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
result_code	String	Error return code: 4010/4011
message	String	Message:sub_id conflict

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "result_code": "4001",
  "message": "some error"
}
```

**2.1.20 Query Subscriber by IP****1) Detail**

POST <http://ipaddr:port/baicellsapi/customers/querybyip>

**param**

Field	Data Type	Description
session_id	String	Business serial number
ip_addr	String	Ip_addr

**Example request:**

```
POST /baicellsapi/customers/query HTTP/1.1
Content-Type: application/json
{
```

```

    "session_id": "2016123456",
    "ip_addr": "192.169.1.1"
}

```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
available	boolean	true:the imsi can be user false:the imsi can not be user
sub_id	String	The internal ID of the subscriber
sub_name	String	The name of the subscriber
id_num	String	The ID number of the subscriber
phone_number	String	The phone of the subscriber
email	String	The email of the subscriber
address	String	The address of the subscriber
service_plan_id	String	The subscriber bound service plan
sub_status	String	The status of subscriber "0":active "1":deactive
svc_state	String	The status of redirection "0":no redirection "1":direction

**Example response:**

```

HTTP/1.1 200 OK
Content-Type: application/json
{
    "session_id": "2016123456",
    "result_code": "200",
    "available": false,
    "sub_id": "20161201",
    "sub_name": "test name",

```



```

    "id_num": "123456",
    "phone_number": "123456",
    "email": "test@test.com",
    "address": "test address",
    "service_plan_id": "2016001",
    "sub_status": "0",
    "svc_state": "0"

```

} or

```

{
    "session_id": "2016123456",
    "result_code": "200",
    "available": true
}

```

## 2.1.21 Activate Subscriber by IMSI

### 1) Detail

POST <http://ipaddr:port/baicellsapi/imsi/activate>

#### param

Field	Data Type	Description
session_id	String	Business serial number
imsi	String	The imsi of the subscriber

#### Example request:

POST /baicellsapi/imsi/activate HTTP/1.1

Content-Type: application/json

```

{
    "session_id": "201805180958",
    "imsi": "6000000000000081"
}

```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

**Example response:**

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "session_id": "201805180958",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4000/4002/4003/4004/5001
message	String	Message

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "201805180958",
  "result_code": "4002",
  "message": "Subscriber dose not exist"
}
```

**2.1.22 Deactivate Subscriber by IMSI****1) Detail**

POST <http://ipaddr:port/baicellsapi/imsi/deactivate>

**param**

Field	Data Type	Description
session_id	String	Business serial number
imsi	String	The IMSI of the subscriber

**Example request:**

POST /baicellsapi/imsi/deactivate HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "201805181105",
  "imsi": "600000000000081"
}
```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

**Example response:**

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "session_id": "201805181105",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4000/4002/5001

message	String	Message
---------	--------	---------

**Example response**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "201805181105",
  "result_code": "4002",
  "message": "Subscriber dose not exist"
}
```

**2.1.23 Subscriber Redirection by IMSI****1) Detail**

POST <http://ipaddr:port/baicellsapi/imsi/redirect>

**param**

Field	Data Type	Description
session_id	String	Business serial number
imsi_list	JSONArray	imsi list

**Example request:**

```
POST http://ipaddr:port/baicellsapi/imsi/redirect HTTP/1.1
Content-Type: application/json
{
  "session_id": "201805181511",
  "imsi": "6000000000000081"
}
```

**Success 200**

Field	Data Type	Description
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

**Example response:**

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "session_id": "201805181105",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
result_code	String	Error return code: 4301
message	String	Message: imsi format error

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "201805181105",
  "result_code": "4301",
  "message": "imsi format error"
}
```

**2.1.24 Subscriber Cancel Redirection by IMSI****1) Detail**

POST <http://ipaddr:port/baicellsapi/imsi/cancelredirect>

**param**

Field	Data Type
session_id	String
imsi_list	String

**Example request:**

POST http://ipaddr:port/baicellsapi/imsi/cancelredirect HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "201805181515",
  "imsi": "6000000000000081"
}
```

### Success 200

Field	Data Type	Description
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

### Example response:

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "session_id": "201805181515",
  "result_code": "200",
  "message": "Success"
}
```

### Error 422

Field	Data Type	Description
result_code	String	Error return code: 4301
message	String	Message: imsi format error

### Example response:

HTTP/1.1 422 OK

Content-Type: application/json

```
{
  "session_id": "201805181515",
  "result_code": "4301",
  "message": "imsi format error"
}
```

## 2.1.25 Change Speed by IMSI (Uplink and Downlink)

### 1) Detail

POST <http://ipaddr:port/baicellsapi/imsi/updatespeed>

#### param

Field	Data Type	Length	Description
session_id	String		Business serial number
imsi	String		The imsi of the subscriber
uplink	Int	10	Uplink speed.Unit:MB(maxinum:1000Mb)
downlink	Int	10	Downlink speed.Unit:MB(maxinum:1000Mb)

#### Example request:

POST /baicellsapi/imsi/updatespeed HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "201805181529",
  "imsi": "6000000000000081",
  "downlink": 5,
  "uplink": 5
}
```

#### Success 200

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

#### Example response:

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "session_id": "201805181529",
```

```

    "result_code": "200",
    "message": "Success"
  }

```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4000/4002/4401/4402/4403/4404/5001
message	String	Message

**Example response:**

```

HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "201805181529",
  "result_code": "4002",
  "message": "Subscriber dose not exist"
}

```

**2.1.26 Query Subscriber by IMSI****1) Detail**

POST <http://ipaddr:port/baicellsapi/imsi/query>

**param**

Field	Data Type	Description
session_id	String	Business serial number
imsi	String	The imsi of the subscriber

**Example request:**

```

POST /baicellsapi/imsi/query HTTP/1.1
Content-Type: application/json
{
  "session_id": "2016123456",

```



```

    "imsi": "6000000000000081"
  }

```

**Success 200**

Field	Data Tpe	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
imsi	String	imsi
sub_id	String	The internal ID of the subscriber
sub_name	String	The name of the subscriber
id_num	String	The ID number of the subscriber
phone_number	String	The phone of the subscriber
email	String	The email of the subscriber
address	String	The address of the subscriber
service_plan_id	String	The subscriber bound service plan
sub_status	String	The status of subscriber "0":active "1":deactive
up_rate	String	Up speed of bind service plan
down_rate	String	Down speed of bind service plan
apn_info_list	JSONArray	Bind apn ip information
svc_state	String	The status of redirection "0":no redirection "1":direction

**Example response:**

```

HTTP/1.1 200 OK
Content-Type: application/json
{
  "session_id": "201805181625",
  "result_code": "200",
  "imsi": "6000000000000081",
  "sub_id": "20161201",

```

```

    "sub_name": "test name",
    "id_num": "123456",
    "phone_number": "123456",
    "email": "test@test.com",
    "address": "test address",
    "service_plan_id": "2016001",
    "sub_status": "0",
    "up_rate": "5",
    "down_rate": "10",
    "svc_state": "0",
    "apn_info_list": [{"apn_name": "apn1", "apn_ambr_ul": 4, "apn_ambr_dl": 8,
"ipv4": "192.168.1.10"}]
  }

```

## 2.1.27 Change Service Plan by IMSI

### 1) Detail

POST <http://ipaddr:port/baicellsapi/imsi/changeservice>

#### param

Field	Data Type	Description
session_id	String	Business serial number
imsi	String	The imsi of the subscriber
new_service_plan_id	String	The new service plan id

#### Example request:

POST /baicellsapi/imsi/updateservice HTTP/1.1

Content-Type: application/json

```

{
  "session_id": "201805221515",
  "imsi": "6000000000000081",
  "new_service_plan_id": "2016001"
}

```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

**Example response:**

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "session_id": "201805221515",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4000/4002/4202/5001
message	String	Message

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "201805221515",
  "result_code": "4002",
  "message": "Subscriber dose not exist"
}
```

**2.1.28 Modify Subscriber by IMSI****1) Detail**

POST <http://ipaddr:port/baicellsapi/imsi/modify>

**param**

Field	Data Type	Length	Description
session_id	String		Business serial number
imsi	String		The imsi of the subscriber
sub_name	String	60	The name of the subscriber
id_num	String	20	The ID number of the subscriber
phone_number	String	20	The phone of the subscriber
email	String	60	The email of the subscriber
address	String	200	The address of the subscriber

**Example request:**

POST /baicellsapi/imsi/modify HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "201805221541",
  "imsi": "6000000000000081",
  "sub_name": "test name",
  "id_num": "123456",
  "phone_number": "123456",
  "email": "test@test.com",
  "address": "test address"
}
```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Subscribers dose not exist

**Example response:**

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "session_id": "201805221541",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code:4000/4002/5001
message	String	Message: sub_id conflict

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "201805221541",
  "result_code": "4002",
  "message": "Subscribers dose not exist"
}
```

**2.1.29 Delete Subscriber by IMSI****1) Detail**

POST <http://ipaddr:port/baicellsapi/imsi/delete>

**param**

Field	Data Type	Description
session_id	String	Business serial number
imsi	String	The imsi of the subscriber

**Example request:**

```
POST /baicellsapi/imsi/delete HTTP/1.1
Content-Type: application/json
{
```

```

    "session_id": "201805221455",
    "imsi": "6000000000000081"
}

```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Subscribers dose not exist

**Example response:**

```

HTTP/1.1 200 OK
Content-Type: application/json
{
    "session_id": "201805221455",
    "result_code": "200",
    "message": "Success"
}

```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code:4000/4002/5001
message	String	Message: sub_id conflict

**Example response:**

```

HTTP/1.1 422 OK
Content-Type: application/json
{
    "session_id": "201805221455",
    "result_code": "4002",
    "message": "Subscribers dose not exist"
}

```

## 2.2 Service Plan (Package/Profile) Category

### 2.2.1 Create Service Plan (Package/Profile)

#### 1) Detail

POST <http://ipaddr:port/baicellsapi/products/create>

#### param

Field	Data Type	Description
session_id	String	Business serial number
service_plan_id	String	The internal ID of the service plan
service_plan_name	String	The name of the service plan
uplink	int	Uplink speed.Unit:MB
downlink	int	Downlink speed.Unit:MB
comments	String	

#### Example request:

POST /products/create HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "service_plan_id": "2016001",
  "service_plan_name": "testname",
  "uplink": 5,
  "downlink": 5,
  "comments": "comments"
}
```

#### Success 200

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

**Example response:**

```

HTTP/1.1 200 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "200",
  "message": "Success"
}

```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4200/4201/4401/4402/4403/4404/5001
message	String	Message

**Example response:**

```

HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "5001",
  "message": "System error"
}

```

**2.2.2 Modify Service Plan (Package/Profile)****1) Detail**

POST <http://ipaddr:port/baicellsapi/products/modify>

**param**

Field	Data Type	Description
session_id	String	Business serial number
service_plan_id	String	The internal ID of the service plan



service_plan_name	String	The name of the service plan
uplink	int	Uplink speed.Unit:MB
downlink	int	Downlink speed.Unit:MB
comments	String	Comments

**Example request:**

POST /products/modify HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "service_plan_id": "2016001",
  "service_plan_name": "testname",
  "uplink": 5,
  "downlink": 5,
  "comments": "comments"
}
```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

**Example response:**

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4200/4201/4401/4402/4403/4404/5001
message	String	Message

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "5001",
  "message": "System error"
}
```

**2.2.3 Get Service Plan by Uplink****1) Detail**

GET <http://ipaddr:port/baicellsapi/products/querybyuplink/{uplink}>

**Success 200**

Field	Data Type	Description
state	String	0:active; 1:inactive

**Example response:**

```
HTTP/1.1 200 OK
Content-Type: application/json

[
  {
    "service_plan_id": "T201611220001",
    "service_plan_name": "1M",
    "uplink": "1",
    "downlink": "1",
```

```

    "state": "0"
  },
  {
    "service_plan_id": "T201611220002",
    "service_plan_name": "1M",
    "uplink": "1",
    "downlink": "2",
    "state": "0"
  }
]

```

## 2.2.4 Get Service Plan by Downlink

### 1) Detail

GET <http://ipaddr:port/baicellsapi/products/querybydownlink/{downlink}>

### Success 200

Field	Data Type	Description
state	String	0:active; 1:inactive

### Example response:

HTTP/1.1 200 OK

Content-Type: application/json

```

[
  {
    "service_plan_id": "T201611220001",
    "service_plan_name": "2M",
    "uplink": "2",
    "downlink": "2",
    "state": "0"
  },
  {
    "service_plan_id": "T201611220002",
    "service_plan_name": "2M",

```

```

    "uplink": "1",
    "downlink": "2",
    "state": "0"
  }
]

```

## 2.2.5 Get Service Plan by Uplink and Downlink

### 1) Detail

GET <http://ipaddr:port/baicellsapi/products/querybylink/{uplink}/{downlink}>

### Success 200

Field	Data Type	Description
state	String	0:active; 1:inactive

### Example response:

```

HTTP/1.1 200 OK
Content-Type: application/json

[
  {
    "service_plan_id": "T201611220001",
    "service_plan_name": "2M",
    "uplink": "2",
    "downlink": "2",
    "state": "0"
  },
  {
    "service_plan_id": "T201611220002",
    "service_plan_name": "2M",
    "uplink": "2",
    "downlink": "2",
    "state": "0"
  }
]

```

## 2.2.6 Get all Service Plans

### 1) Detail

GET <http://ipaddr:port/baicellsapi/products/quervallplans>

### Success 200

Field	Data Type	Description
state	String	0:active; 1:inactive

### Example response:

HTTP/1.1 200 OK

Content-Type: application/json

```
[
  {
    "service_plan_id": "T201611220001",
    "service_plan_name": "1M",
    "uplink": "1",
    "downlink": "1",
    "state": "0"
  },
  {
    "service_plan_id": "T201611220002",
    "service_plan_name": "2M",
    "uplink": "2",
    "downlink": "2",
    "state": "0"
  }
]
```

## 2.2.7 Delete Service Plan

### 1) Detail

POST <http://ipaddr:port/baicellsapi/products/delete>

**param**

Field	Data Type	Description
session_id	String	Business serial number
service_plan_id	String	The internal ID of the service plan

**Example request:**

```
POST /products/modify HTTP/1.1
Content-Type: application/json
{
  "session_id": "2016123456",
  "service_plan_id": "2016001"
}
```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully return code:200
message	String	Message:Success

**Example response:**

```
HTTP/1.1 200 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "200",
  "message": "Success"
}
```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4200/4202/4207/5001

message	String	Message
---------	--------	---------

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "5001",
  "message": "System error"
}
```

**2.2.8 Get Service Plan by ID****1) Detail**

GET [http://ipaddr:port/baicellsapi/products/querybyid/{service\\_plan\\_id}](http://ipaddr:port/baicellsapi/products/querybyid/{service_plan_id})

**Success 200**

Field	Data Type	Description
state	String	0:active;1:inactive

**Example response:**

```
HTTP/1.1 200 OK
Content-Type: application/json

[
  {
    "service_plan_id": "T201611220001",
    "service_plan_name": "2M",
    "uplink": "2",
    "downlink": "2",
    "state": "0"
  }
]
```

## 2.3 System Setting

### 2.3.1 Set Redirect URL and Allow Access to IP

#### 1)Detail

POST <http://ipaddr:port/baicellsapi/system/setredirecturl>

#### param

Field	Data Type	Length	Description
url	String	200	complete path of redirection
url_ip	String	40	The IP address of the directional URL
alow_ips	Sequence		A list of IP allowed to access.Maximum quantity 16

#### Example request:

POST http://ipaddr:port/baicellsapi/system/setredirecturl HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "123456",
  "url": "http://www.xxx.xxx:8080/balancedue",
  "url_ip": "192.168.9.10",
  "allow_ip_list": ["172.17.0.10", "172.17.0.20"]
}
```

#### Success 200

Field	Data Type	Description
result_code	String	Successfully create a subscriber return code:200
message	String	Message:Success

#### Example response:

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "result_code": "200",
  "message": "Success"
}
```



}

**Error 422**

Field	Data Type	Description
result_code	String	Error return code:5001/4601
message	String	Message:system error

**Example response:**

```
HTTP/1.1 422 OK
Content-Type: application/json
{
  "result_code": "5001",
  "message": "system error"
}
```

## 2.4 Data Usage

### 2.3.1 Query Data Usage by Hour Size

NOTE: Not supported in North America CloudCore, but is supported in a Local OMC+BOSS environment

**1) Detail**

POST <http://ipaddr:port/baicellsapi/usage/querybyhour>

**param**

Field	Data Type	Required	Description
session_id	String	Yes	Business serial number
imsi	String	No	If the imsi is not empty query the specified IMSI's usage. If imsi is empty query all IMSI's usage.
begin_time	String	Yes	Time interval of queries, Format:yyyy-MM-dd hh:mm:ss The maximum time interval is 31 days.
end_time	String	Yes	Time interval of queries,Format:yyyy-MM-dd hh:mm:ss

			The maximum time interval is 31 days.
--	--	--	---------------------------------------

**Example request:**

POST /baicellsapi/usage/querybyhour HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "imsi": "600000000000001",
  "begin_time": "2018-11-22 08:00:00",
  "end_time": "2018-11-22 12:00:00"
}
```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
usage_infos	JSONArray	Return data list
imsi	String	imsi
total_usage	String	Unit (KB)
up_usage	String	Unit (KB)
down_usage	String	Unit (KB)
usage_time	String	Time of Statistical usage. For example:(2018-11-22 10:00:00) means the usage data from 9 o'clock to 10 o'clock.

**Example response:**

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "result_code": "200",
  "usage_infos": [
    {
      "imsi": "600000000000001",
      "total_usage": "204800",
```

```

        "up_usage": "1000",
        "down_usage": "203800",
        "usage_time": "2018-11-22 10:00:00"
    }
]
}

```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4701/4702/4703/4704
message	String	Message

**Example response:**

```

HTTP/1.1 422 OK
Content-Type: application/json
{
    "session_id": "2016123456",
    "result_code": "4701"
    "message": "begin time is required"
}

```

**2.4.2 Query Data Usage CDR Detail**

NOTE: Not supported in North America CloudCore, but is supported in a Local OMC+BOSS environment

**1) Detail**

POST <http://ipaddr:port/baicellsapi/usage/querycdr>

**param**

Field	Data Type	Required	Description
session_id	String	Yes	Business serial number
imsi	String	No	If the imsi is not empty query the specified IMSI's usage. If imsi is empty query all IMSI's usage.

begin_time	String	Yes	Time interval of queries, Format:yyyy-MM-dd hh:mm:ss The maximum time interval is 7 days.
end_time	String	Yes	Time interval of queries, Format:yyyy-MM-dd hh:mm:ss The maximum time interval is 7 days.

**Example request:**

POST /baicellsapi/usage/querybyhour HTTP/1.1

Content-Type: application/json

```
{
  "session_id": "2016123456",
  "imsi": "600000000000001",
  "begin_time": "2018-11-22 08:00:00",
  "end_time": "2018-11-22 12:00:00"
}
```

**Success 200**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Successfully create a subscriber return code:200
cdr_infos	JSONArray	Return data list
imsi	String	imsi
total_usage	String	Unit (Byte)
up_usage	String	Unit (Byte)
down_usage	String	Unit (Byte)
duration	String	Unit(second)
cdrdate	String	The time to generate this CDR. Format:yyyy-MM-dd hh:mm:ss

**Example response:**

HTTP/1.1 200 OK

Content-Type: application/json

```
{
  "session_id": "2016123456",
```

```

"result_code": "200",
"cdr_infos":[
  {
    "imsi":"6000000000000001",
    "total_usage":"204800",
    "up_usage":"1000",
    "down_usage":"203800",
    "duration":"300",
    "cdrdate":"2018-11-22 12:14:32"
  }
]
}

```

**Error 422**

Field	Data Type	Description
session_id	String	Business serial number
result_code	String	Error return code: 4701/4702/4703/4705
message	String	Message

**Example response:**

```

HTTP/1.1 422 OK
Content-Type: application/json
{
  "session_id": "2016123456",
  "result_code": "4701"
  "message": "begin time is required"
}

```

## Appendix: Activate Subscriber and Bind APN IPflow Diagram

Follow the steps below and the flow diagram to activate the subscriber and bind the APN IP.

1. Create a subscriber.
2. Bind the service plan for this subscriber. If there is no suitable tariff that can be used, create a new service plan following the information in section 2.2.1.
3. Bind IMSI for this subscriber.
4. Activate this subscriber.

At this point, the IMSI can access the network.

