



Baicells BOSS API Manual

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Version 1.2

About This Document

This document is intended for software developers developing 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.

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Revision Record

Date	Version	Description	SMEs/Contributors	Editor
16-Nov-2017	V1.2	Added North America URL	Cameron Kilton	Sharon Redfoot
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Sept 2017	V1.0	New	Simon Yang Yanan	

Related Documents

Following is a list of the Baicells technical documents, which may be found on the support website (see “Contact Us” section):

- Baicells BOSS API Manual (this document)
- Baicells Configuration & Network Administration Guide
- Baicells Enterprise EPC Deployment Guide (forthcoming)
- Baicells Enterprise EPC User Guide (forthcoming)
- Baicells Maintenance & Troubleshooting Guide (forthcoming)
- Nova 1W OD Base Station Installation Guide (Nova-233 G1 2x1W PVN/TDD)
- Nova 1W OD Base Station Quick Start Guide (Nova-233 G1 2x1W PVN/TDD)
- Nova-233 G2 OD 2*1W FDD/TDD Base Station Installation Guide (forthcoming)
- Nova-233 G2 OD 2*1W FDD/TDD Base Station Quick Start Guide (forthcoming)
- Nova 10W OD Base Station Installation Guide (Nova-243 2x10W FDD/PVN/TDD)
- Nova 10W OD Base Station Quick Start Guide (Nova-243 2x10W FDD/PVN/TDD)
- Nova-436 OD 4*1W CCA TDD Base Station Installation Guide (forthcoming)
- Nova-436 OD 4*1W CCA TDD Base Station Quick Start Guide (forthcoming)
- Atom ID04-3.5 ID FDD/TDD CPE User Manual (previously, Atom 5dBi Indoor CPE)
- Atom ID04-5 ID TDD CPE User Manual (previously, Atom 5dBi Indoor CPE)
- Atom ID04-6.5 ID FDD/TDD CPE User Manual (previously, Atom 5dBi Indoor CPE)
- Atom ID06-6.5 ID FDD/TDD CPE User Manual (forthcoming)
- Atom OD04-14 OD TDD CPE User Manual (previously, Atom 11dBi Outdoor CPE)
- Atom OD04-19.5 OD TDD CPE User Manual (previously, Atom 19.5dBi Outdoor CPE)
- Atom OD06-14 OD TDD CPE User Manual (forthcoming)
- Atom OD06-19.5 OD TDD CPE User Manual (forthcoming)

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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 the operation fails.

Table 1-1: Result_Code List

Code	Message
4000	sub_id field is required
4001	sub_id conflict
4002	Subscriber does not exist
4003	Subscriber does not bind International Mobile Subscriber Identity (IMSI)
4004	Subscriber does not bind service plan
4005	Subscriber already exists
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
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	The bind relation (subscriber-apn-ip) does not exist
4106	The bind relation already exists
4107	The bind relation already does not exist
4108	apn_name is required
4109	Data is 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	Data node is required
4207	The 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 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	Exceeds 200 records limit
5001	System error
5002	cloud_key is required in request header
5003	cloud_key does not exist
5004	User or password error
5005	The user does not match this cloud_key

2. API List

NOTE: In this document, for North American customers using the Baicells CloudCore Evolved Packet Core (EPC), please note that when the query "POST /baicellsapi/customers/query" is used, substitute this address: <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 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:

```

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:

```

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

1) Detail

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

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	int	apn_ambr_ul
apn_ambr_dl	int	apn_ambr_dl
ip_addr	String	Ip addr (If you do not set a static IP, this parameter should be set to empty or you should delete the parameter.)

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,
  "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"
}

```

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**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."
    }...
  ]
}

```

2.2 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 Plan

1) Detail

GET http://ipaddr:port/baicellsapi/products/queryallplans

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"
}

```

Appendix A: Additional Information

Activate Subscriber and Bind APN IP

Follow the steps below to activate the subscriber and bind the APN IP. Refer to the flow diagram in Figure 3-1.

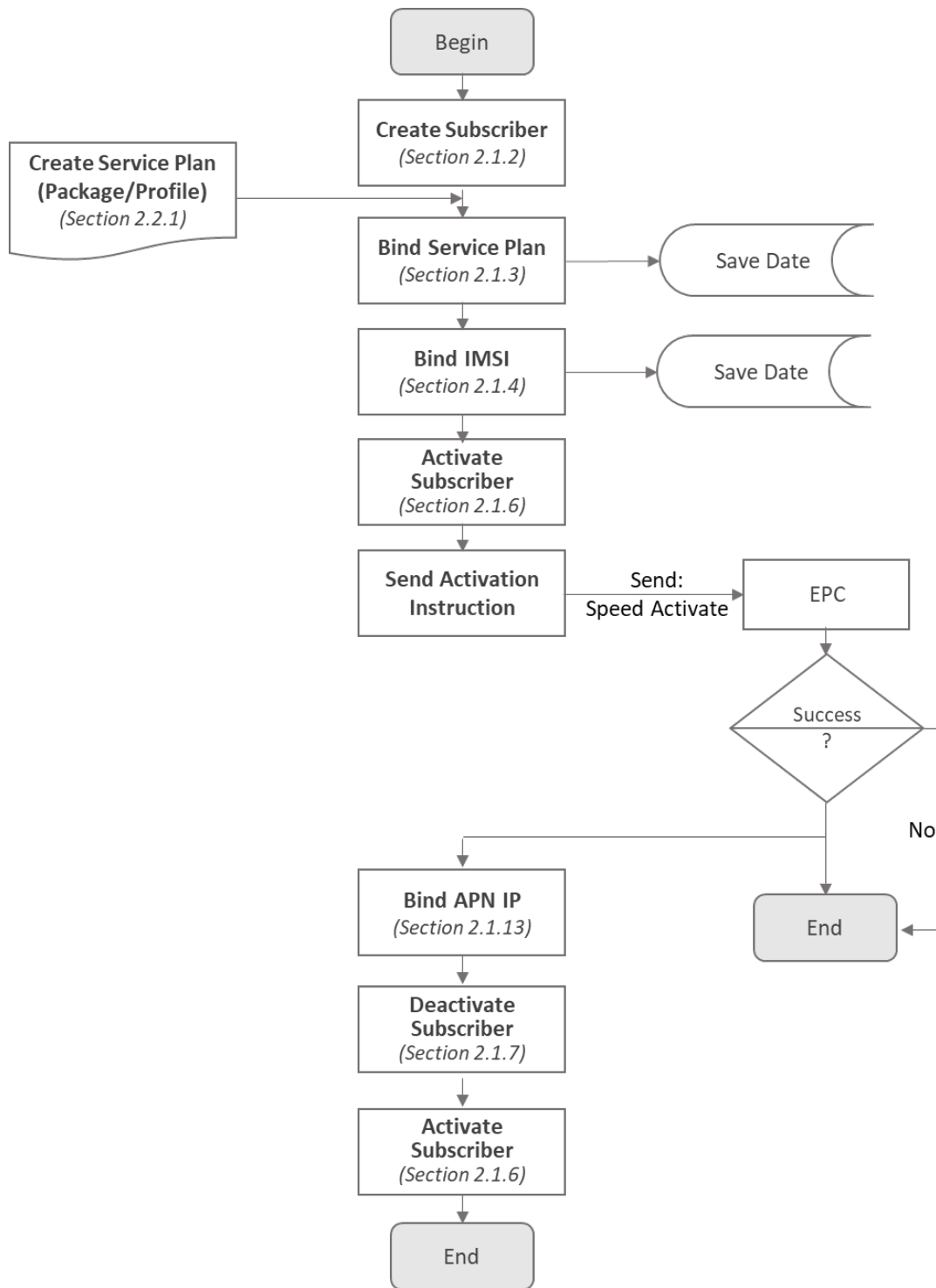
1. Create a subscriber.
2. Bind the service plan for this subscriber. If there is no suitable tariff that can be used, create a new service plan following the information in Section 2.2.1.
3. Bind IMSI for this subscriber.
4. Activate this subscriber.

At this point, the IMSI can access the network.

If you want to bind an APN, please proceed with the following steps:

4. Follow the information in Section 2.1.17 (Bind APN IP Interface) to bind the APN and IP for this subscriber.
5. Deactivate this subscriber, and then activate this subscriber again for the APN and IP to take effect.

Figure 3-1: Flow Diagram



Remove APN or IP

Follow the steps below to remove the APN or IP address.

1. Modify the configured IP for the subscriber.
2. Follow the information in Section 2.1.17 Bind APN and Static IP again, and set the ip_addr parameter to a new IP. The goal is to delete the static IP but retain the same APN.
3. Again, follow the information in Section 2.1.17 Bind APN and Static IP, and remove the "ip_addr" from the parameters or set the ip_addr parameter to empty.
4. Follow the information in Section 2.1.18 Remove APN and Static IP.

Appendix B: FAQs

If you have questions, please check the most up-to-date Frequently Asked Questions (FAQs) as well as other helpful resources on the following websites:

- Baicells support website - <https://na.Baicells.com/support/>
- Baicells support forum on Facebook - <https://www.facebook.com/groups/Baicellsoperatorsupportgroup/>