# SMS HTTP API Manual

## Version 8.0

Making the world seem smaller!

## TABLE OF CONTENTS

## INTRODUCTION

This document describes JiaZhiYuan's HTTP SMS API platform. It is used either via HTTP POST or GET requests. It can be used directly or through any programming language allowing developers or users to interface their system easily with JiaZhiYuan's services.
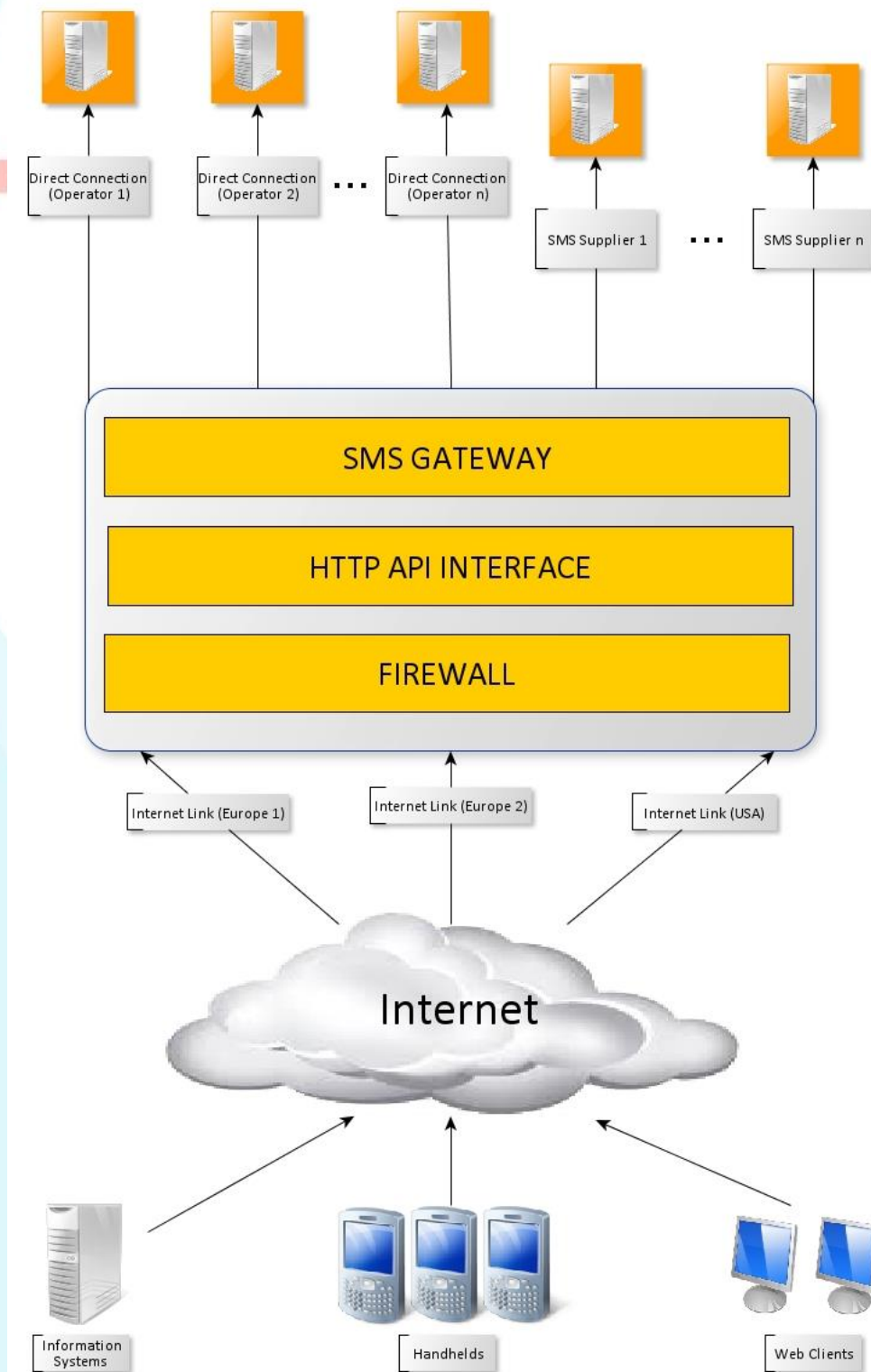


Figure 1 – JiaZhiYuan Ltd. SMS Gateway Platform

## HTTP PROTOCOL

The Hypertext Transfer Protocol (HTTP) is the most common networking protocol used by all Web applications. HTTP is the foundation of data communication for the World Wide Web. It is based on requests for resources made with URLs and responses to them. The requests are made by clients (e.g. Web Browsers) and the responses are delivered by Servers (e.g. Website). Below you can find some basic terminology of the HTTP Protocol:

**URL:** A Uniform Resource Locator specifies where an identified resource is available and the mechanism for retrieving it. That is the address of the resource.
e.g. http://www.domain.com/test.html
Here the URL is 'http://www.domain.com/test.html'

**Parameters:** The parameters supplied to the URL. These begin at the end of the resource with the character '?' and are separated by character '&'.
e.g. http://www.domain.com/test.html?paramA=1&paramB=testvalue
Here the parameters are paramA with the value of '1' and paramB with the value of 'testvalue'.
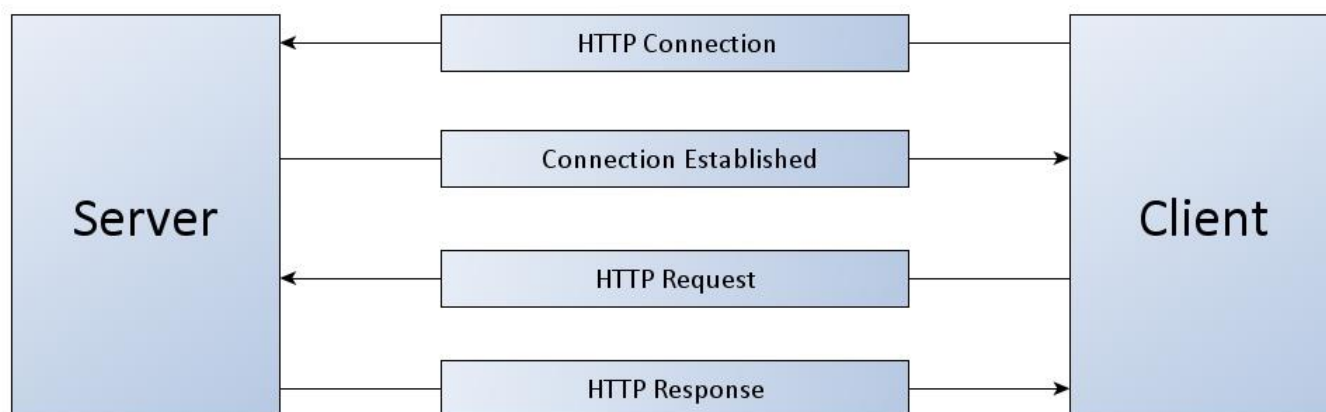


Figure 2 – HTTP Protocol

In order to make an HTTP GET call, you can use any programming language since they all offer a function to make HTTP GET requests.

In PHP you can execute the following:
e.g.  echo file_get_contents("http://www.domain.com/test.html");

In a UNIX shell you can execute the following command (if libcurl is  installed):
e.g.  curl 'http://www.domain.com/test.html'

In a UNIX shell you can execute the following command (if lynx is installed):
e.g.  lynx -dump 'http://www.domain.com/test.html'

## SMS SUBMISSION WITH THE HTTP API REQUEST

To send a HTTP request you must provide the correct URL with the required parameters for a successful SMS submission. An example HTTP GET request is:

http://IPADDRESS/bulksms/bulksend.go?username=userXXXX&password=passXXXX&originator=testsender&phone=44xxxxxxxxxx&msgtext=test+message

**Note:** IPADDRESS, username and password are provided to users by their Account Managers by email. username and password are needed for user identification. Since HTTP Protocol is stateless, users are required to submit this information with in all HTTP API SMS Submission requests.

| Parameter | Example / Explanation |
|---|---|
| **username** | e.g. userXXXX |
| | The email of your account. |
| **password** | e.g. passXXXX |
| | The password of your account |
| **phone** | e.g. 44xxxxxxxxxx |
| | e.g. 44xxxxxxxxxx,44xxxxxxxxxx |
| | The full international number of the recipient's mobile device. This excludes the leading '+'. Can accept multiple numbers by separating each number with a comma. Due to limitations of the HTTP GET request, up to roughly 300 recipients can be send in any HTTP GET request. See examples below for proper use. |
| **msgtext** | e.g. test+message |
| | The text of the SMS message. You can send up to 160 characters max. See examples below for proper use. Text has to be encoded following the URL escaping restrictions. |
| **originator** | e.g. testsender |
| | Originator is the sender displayed in the recipient's mobile device upon arrival of the SMS. Can be composed of 11 alphanumeric characters (A-z, 0-9) or 14 numeric characters (0-9). White spaces and characters are not allowed. |
| **showDLR** **(optional)** | e.g. showDLR=1 (Default 0) |
| | Set this parameter to '1' for requesting delivery report for this SMS. Refer to Delivery Reports With Automatic DLR Forwarding section for more information. |
| **showCOST** **(optional)** | e.g. showCOST=1 (Default 0) |
| | Set this parameter to '1' for requesting cost for this SMS. Cost is always in EURO (€). |

| **NOTICE:** If the destination number is ported, please refer to information provided to you by the Delivery Report for the ported mobile operator id and the final cost. (For more information please refer to Delivery Reports (DLR) or Automatic DLR Forwarding sections of this document.) | |
|---|---|
| **showOPERATORID** (optional) | e.g. showOPERATORID=1 (Default 0) |
| | Set this parameter to '1' for requesting operator id of destination network for this SMS. (Please visit www.solutions4mobiles.com/downloads/documents/MOBILE_OPERATORS_LIST_V__1.3__.csv to download a full mobile operators reference list file.) |
| **NOTICE:** If the destination number is ported, please refer to information provided to you by the Delivery Report for the ported mobile operator id and the final cost. (For more information please refer to Delivery Reports (DLR) or Automatic DLR Forwarding sections of this document.)) | |
| **charset** (optional) | e.g. charset=6 (Default 0) |
| | This parameter specifies character encoding of the SMS. |
| 1 | GSM 7-bit ASCII (a, b, c) e.g. msgtext=Hello+World |
| 5 | WAP PUSH binary message. e.g. msgtext=http://www.business-sms.net/mmscontent/2001.gif::::FunnyPic |
| 6 | All characters in Hexadecimal Unicode UCS2 format e.g. for āĉġ msgtext=010101090121 70 characters maximum. |
| 8 | Latin Characters URL Encoded (à, è, ì, ò, ù) e.g. for àü msgtext=%7F%7E |
| **UDH** (optional) | e.g. 00E5 |
| | UDH Header for binary SMS in hexadecimal form. |
| **MSG** (optional) | e.g. 09E9 |
| | UDD for binary SMS in hexadecimal form. |
| **msgtype** (optional) | e.g. 'F' (Default 'G') |
| | Set this parameter with 'F' to send SMS as Flash. |
| **futuredate** (optional) | e.g. 2011-06-17 18:45:32 |
| | Set this parameter with the exact date (in UTC) that the SMS should be sent. Must be URL encoded e.g. futuredate=2011-06-30+11%3A49%3A45 |
| **expirationdate** (optional) | e.g. 2013-12-17 12:14:01 |
| | Set this parameter with an exact date (in UTC). Expiration Date must be at least 30 minutes before the submission date or the future date. Must also be URL encoded e.g. expirationdate=2011-06-30+11%3A49%3A45 |

Table 1 - SMS Submission Parameters

When an HTTP request is made, the msgtext parameter has to be encoded following the URL escaping restrictions. For example space characters should be replaced by "+". Also, certain special characters need to be replaced with their escape character in order to be treated as data. Refer to Appendix A for common escape characters.

e.g. for hello word msgtext=hello+world

In a single SMS message, the message text is up to 160 characters. To send more than 160 characters, you have to use the "concatenated SMS" method. Some older mobile phones do not support longer SMS messages. For Long SMS messages, one SMS is sent for every 153 characters of text in the message due to the binary data headers used for each SMS.

**Note:** Certain characters while being supported but are part of the Extended GSM 7-bit Alphabet and count as 2 characters towards single SMS maximum text length (e.g. ^ | [ ]). Please refer to Appendix B for characters starting with 0x1B for a detailed list of them.

All HTTP API SMS submission requests return OK on successful submission or an Error Code. (Refer to Table 2 for Error Code explanation)

| Error Codes | |
|---|---|
| **ERROR #** | **Description** |
| ERROR100 | Temporary Internal Server Error. Try again later |
| ERROR101 | Authentication Error (Not valid login Information) |
| ERROR102 | No credits available |
| ERROR103 | MSIDSN (phone parameter) is invalid or prefix is not supported |
| ERROR104 | Tariff Error |
| ERROR105 | You are not allowed to send to that destination/country |
| ERROR106 | Not Valid Route number or you are not allowed to use this route |
| ERROR107 | No proper Authentication (IP restriction is activated) |
| ERROR108 | You have no permission to send messages through HTTP API |
| ERROR109 | Not Valid Originator |
| ERROR110 | You are not allowed to send (Routing not available) or Reseller is trying to send while not allowed |
| ERROR111 | Invalid Expiration date or Expiration Date is less than 30 minutes than the date of SMS submission |
| ERROR999 | Invalid HTTP Request |

Table 2 - SMS Submission Error Codes

## EXAMPLES FOR SMS SUBMISSION

### HTTP GET Request for sending a Hello Message

http://IPADDRESS/bulksms/bulksend.go?username=userXXXX&password=passXXXX&originator=testsender&phone=44xxxxxxxxxx&msgtext=Hello

HTTP API request for sending SMS with text 'Hello' to recipient with number '44xxxxxxxxxx'. This SMS will display 'testsender' as the originator of the message. Username, password and IPADDRESS are provided to users by their Account Managers.

originator=testsender
msgtext=Hello

Returns OK on successful submission or an Error Code. (Refer to Table 2 for Error Code explanation)

### HTTP GET Request for sending a Flash Message

http://IPADDRESS/bulksms/bulksend.go?username=userXXXX&password=passXXXX&originator=testsender&phone=44xxxxxxxxxx&msgtype=F&msgtext=Hello

HTTP API request for sending SMS as Flash message. (SMS will pop up at recipient device)

msgtype=F

Returns OK on successful submission or an Error Code. (Refer to Table 2 for Error Code explanation)

### HTTP GET Request for sending a Latin Text Message

http://IPADDRESS/bulksms/bulksend.go?username=user@domain.com&password=12345&originator=mycompany&phone=44xxxxxxxxxx&charset=8&msgtext=%E0%E8%EC%F2%F9+500%1B%65+abc@domain.com

HTTP API request for sending the Latin Text 'àèìòù 500€ abc@domain.com'. The charset used is '8' and the Latin characters of the message are url encoded. (Refer to Table 1 for the various charsets available)

msgtext=%E0%E8%EC%F2%F9+500%1B%65+abc@domain.com

Returns OK on successful submission or an Error Code. (Refer to Table 2 for Error Code explanation)

| **HTTP GET Request for sending an Arabic text Message** |
|---|
| http://IPADDRESS/bulksms/bulksend.go?username=user@domain.com&password=12345&originator=mycompany&phone=44xxxxxxxxx&charset=6&msgtext=063506280627062D002006270644062E064A0631 |
| HTTP API request for sending the Arabic Message (Good Morning) – 'الخير صباح'. The charset used is '6' and all characters are converted to their hexadecimal Unicode representation. (Refer to Table 1 for the various charsets available)<br><br>charset=6<br>msgtext=063506280627062D002006270644062E064A0631<br><br>Returns OK on successful submission or an Error Code. (Refer to Table 2 for Error Code explanation) |

| **HTTP GET Request for sending a Message to multiple recipients** |
|---|
| http://IPADDRESS/bulksms/bulksend.go?username=user@domain.com&password=12345&originator=mycompany&phone=44xxxxxxxxx,44xxxxxxxxx,44xxxxxxxxx,44xxxxxxxxx,44xxxxxxxxx&msgtext=Hello+to+multiple+mobiles |
| HTTP API request for sending a message to Multiple Recipients in one HTTP request. Multiple recipient numbers are provided by separating each number with a comma.<br><br>phone=44xxxxxxxxx,44xxxxxxxxx,44xxxxxxxxx,44xxxxxxxxx,44xxxxxxxxx<br><br>Returns one OK for each number in the phone parameter on successful submission or an Error Code. (Refer to Table 2 for Error Code explanation) |

| **HTTP GET Request for sending an SMS to a future date** |
|---|
| http://IPADDRESS/bulksms/bulksend.go?username=user@domain.com&password=12345&originator=mycompany&phone=44xxxxxxxxx&msgtext=Hi&futuredate=2014-06-30+11%3A49%3A45 |
| HTTP API request for sending an SMS to a particular time in the future. The parameter futuredate must be URL encoded.<br><br>futuredate=2014-06-30+11%3A49%3A45<br><br>Returns OK on successful submission or an Error Code. (Refer to Table 2 for Error Code explanation) |

**HTTP GET Request for sending a WAP PUSH**

http://IPADDRESS/bulksms/bulksend.go?username=user@domain.com&password=12345&originator=
mycompany&charset=5&phone=44xxxxxxxxxx&msgtext=http://wap.free--
sms.com/mmscontent/2001.gif::::FunnyPic

HTTP API request for sending a WAP PUSH message. Charset parameter must be set to '5'. The msgtext
is divided in 2 parts separated by character sequence '::::':

1. The URI of the resource to which this message links. (http://wap.free--
   sms.com/mmscontent/2001.gif)
2. The title to be displayed in the recipient's device screen. (FunnyPic)

Returns OK on successful submission or an Error Code. (Refer to Table 2 for Error Code explanation)

**HTTP GET Request for sending a German text Message**

http://IPADDRESS/bulksms/bulksend.go?username=user@domain.com&password=12345&originator=
mycompany&phone=49xxxxxxxxxx&charset=1&msgtext=ABCDEFGHIJKLMNOPQRSTUVWXYZßÄäÖöÜüß

HTTP API request for sending German Message – 'ABCDEFGHIJKLMNOPQRSTUVWXYZßÄäÖöÜüß'. The
charset used is '1'. (Refer to Table 1 for the various charsets available)

charset=1
msgtext= ABCDEFGHIJKLMNOPQRSTUVWXYZßÄäÖöÜüß

Returns OK on successful submission or an Error Code. (Refer to Table 2 for Error Code explanation)

**HTTP GET Request for sending a Message with DLR ID returned for Delivery Report (DLR) Forwarding**

http://IPADDRESS/bulksms/bulksend.go?username=user@domain.com&password=12345&originator=
mycompany&phone=44xxxxxxxxxx&msgtext=message+with+dlr&showDLR=1

**NOTE:** Please refer to Delivery Reports Section before attempting to send a SMS with DLR enabled.

HTTP API request for sending a message and requesting DLR for it.

showDLR=1

Returns one OK followed by DLR request id on successful submission or an Error Code. (Refer to Table 2
for Error Code explanation). Use DLR request id for cross-checking with DLR data from automatic DLR
forwarding.
e.g OK1234567

| **HTTP GET Request for sending a text Message and receiving Network Operator and cost** |
|---|
| http://IPADDRESS/bulksms/bulksend.go?username=user@domain.com&password=12345&originator= mycompany&phone=44xxxxxxxxx&showCOST=1&showOPERATORID=1&msgtext=Hello |
| HTTP API request for sending test Message – 'Hello'. Additional information of cost of SMS and operator id of mobile network are returned since parameters showCOST and showOPERATORID are set to '1'  (Please contact to me to get a full mobile operators reference list file.)<br>Cost is always in EURO (€).<br><br><br><br>showCOST=1<br>showOPERATORID=1<br>msgtext=Hello<br><br>Returns OK on successful submission with cost of SMS and operator id of mobile network separated by character '\|', or an Error Code. (Refer to Table 2 for Error Code explanation)<br>e.g. OK\|0.045\|101<br>In case only one of showCOST and  showOPERATORID is set to '1' the return result will be:<br>For showCOST=1            e.g. OK\|0.0.45<br>For showOPERATORID=1    e.g. OK\|101 |

| **HTTP GET Request for sending a Swedish Text** |
|---|
| http://IPADDRESS/bulksms/bulksend.go?username=user@domain.com&password=12345&originator= mycompany&phone=46xxxxxxxxx&charset=1&msgtext= AAaBbCcDdEeFfGgHhIiJjKkLlMmNnOoPpQqRrSsTtUuVvWwXxYyZz%C5%E5%C4%E4%D6%F6 |
| HTTP API request for sending the Swedish Message<br>AaBbCcDdEeFfGgHhIiJjKkLlMmNnOoPpQqRrSsTtUuVvWwXxYyZzÅåÄäÖö. The charset used must be '1'<br><br>charset=1<br>msgtext=AAaBbCcDdEeFfGgHhIiJjKkLlMmNnOoPpQqRrSsTtUuVvWwXxYyZz%C5%E5%C4%E4%D6%F6<br>Returns OK on successful submission or an Error Code. (Refer to Table 2 for Error Code explanation) |

## DELIVERY REPORTS (DLR) WITH AUTOMATIC DLR FORWARDING

With the SMS submission users can receive a Delivery Report for each of their SMS sending requests by using Automatic DLR Forwarding. Unlike requesting DLR on demand, users will receive their DLR on their system. In order to utilize Automatic DLR Forwarding, users must visit their Control Panel and specify the 'DLR Callback URL' in their 'Profile' page.

e.g. http://www.test_server/test_page.php

When an SMS status report is received by MobiWeb SMS Platform, DLR information is forwarded to the user's specified DLR Callback URL as parameters.

| Parameter | Example / Explanation |
|---|---|
| id | e.g. 1234567 |
| | The message reference number. |
| phone | e.g. 44xxxxxxxxxx |
| | The full international number of the recipient's mobile device. This excludes the leading '+'. |
| status | e.g. 1 |
| | The status code for this message. (Refer to Table 4 for Status explanations) |
| date | e.g. 2005-10-23 20:07:56 |
| | The delivery date that MobiWeb SMS Platform received this status report in 0 UTC. |
| cost | e.g. 0.045 |
| | The cost of the SMS. Cost is always in EURO (€). |
| operatorid | e.g. 101 |
| | The network operator id of the destination number. (Please visit www.jiajiahua.com/downloads/documents/MOBILE_OPERATORS_LIST_V__1.3__.csv to download a full mobile operators reference list file.) |

Table 6 – Automatic DLR parameters

JiaZhiYuan's SMS Platform will send out DLR information based on the following schedule:

| AUTOMATIC DLR FORWARDING SCHEDULE | |
|---|---|
| Attempt | Time |
| 1 | Instantly send when status is received. |
| 2 | After 5 minutes. |
| 3 | After 15 minutes |

| 4 | After 30 minutes |
| 5 | After 1 hour. |
| 6 | After 5 hours. |
| 7 | After 24 hours. |
| Resolution | No more attempts. |

Table 7 – Automatic DLR Scheduler

| Delivery Status Codes | |
| --- | --- |
| Status Code | Description |
| 0 | No Status yet received |
| 1 | SMS Delivered |
| 2 | Failed Delivery (Erroneous Number) |
| 3 | Delivery Failed (Message Expired in SMSC) |
| 4 | Pending Delivery |
| 5 | Expired |

Table 4 – Delivery Report Status Codes

**Note:** JiaZhiYuan's SMS Platform will stop sending DLR information of a SMS when it accepts a HTTP Status Code 200 from the user's system. HTTP Status Code 200 is considered as a valid acknowledgement of DLR information from the user side.

| AUTOMATIC DLR FORWARDING EXAMPLE |
| --- |
| http://www.test_server/test_page.php?id=1234567&phone=44xxxxxxxxx&status=1&operatorid=101&cost=0.045&date=2005-10-23 20:07:56 |
| When the delivery report is acknowledged from MobiWeb's system, we forward delivery report information to the processing script in the URL the user has specified. The user specified 'DLR Callback URL' is http://www.test_server/test_page.php. So DLR information is delivered at the following location having the following parameters:<br><br>id=1234567<br>phone=56xxxxxxxxxx<br>status=1<br>date=2011-02-25 10:07:56<br>cost=0.045<br>operatorid=101<br>Cost is always in EURO (€).<br>Users, after receiving DLR information and they finish processing the request, have to always return 'OK' to JiaZhiYuan SMS Platform. Failure to do so will result in multiple retries or from loosing delivery reports. |

## CREDIT BALANCE

An HTTP API request is available for users who wish to retrieve the remaining credits of their accounts. An example of HTTP GET request follows:

http://IPADDRESS/bulksms/getBALANCE.go?username=userXXXX&password=passXXXX

| Parameter | Example / Explanation |
|---|---|
| username | e.g. userXXXX |
| | The username of your account. |
| password | e.g. passXXXX |
| | The password of your account |

Table 8 – Credit Balance Parameters

An HTTP API Credit Balance request returns the number of available EUROS of the user's account.
e.g. 945.35 €

## VIEW DETAILED PRICING & COVERAGE

An HTTP API request is available for users who wish to retrieve the pricing and the covered networks for their account. An example of HTTP GET request follows:
http://HOST/bulksms/getpricing.go?username=userXXXX&password=passXXXX
or
http://HOST/bulksms/getpricing.go?username=userXXXX&password=passXXXX&format=html

| Parameter | Example / Explanation |
|---|---|
| username | e.g. userXXXX |
| | The username of your account. |
| password | e.g. passXXXX |
| | The password of your account |
| format (optional) | e.g. format=html (Default csv) |
| | Set this parameter to 'html' for requesting to get a human readable format of your pricing. Set to 'csv' to get a .csv file format mostly to process it with your own script. |
| type (optional) | e.g. type=1mncperline (Default '') |
| | Set this parameter to control the way operators with multiple MNC will be displayed. type=1mnc - Display only main MNC of operator. type=1mncperline - Display each MNC of operator in a new line. |

| | type='' – Display all MNC of operator in one line separated by whitespace. |
|---|---|
| **e212** **(optional)** | e.g. e212=true (Default false) |
| | Set this parameter to true to receive MCC and MNC information in E212 format. |

Table 9 – Pricing & Coverage

The HTTP API request returns pricing and coverage information in .csv format that can easily parsed from a script or in html format for easier viewing.

## PRICING API EXAMPLE

| **HTTP Request for retrieving pricing & coverage** |
|---|
| http://HOST/bulksms/getpricing.go?username=userXXXX&password=passXXXX&format=csv&type=1m ncperline&e212=true |
| HTTP API request for retrieving pricing & coverage account information. Information will be displayed in csv format. Operators with multiple MNCs will be displayed as one per line for each of their MNCs. MCC+MNC information will be visible at E212 column. Username, password and IPADDRESS are provided to users by their Account Managers.<br><br>Example information that is returned:<br><br>"Country";"Operator Name";MCC;MNC;E212;Price(EUR)<br>"Argentina";"Hutchison Telecommunications Argentina";722;35;722035;X.XXXX<br>"Argentina";"Nextel Argentina";722;2;722002;X.XXXX<br>"Argentina";"Nextel Argentina";722;20;722020;X.XXXX<br>"Argentina";"Nextel Argentina";722;0;722000;X.XXXX |

## APPENDIXES

| APPENDIX A | |
|---|---|
| **ESCAPE CHARACTER CODES** | |
| **Character** | **Escape** |
| " | %22 |
| < | %3C |
| > | %3E |
| & | %26 |
| + | %2B |
| # | %23 |
| % | %25 |

| | |
|---|---|
| * | %2A |
| ! | %21 |
| , | %2C |
| ' | %27 |
| \ | %5C |
| = | %3D |

| APPENDIX B | | | | |
|---|---|---|---|---|
| **GSM 03.38 7-BIT ALPHABET** | | | | |
| **GSM** | **ISO-8859-1** | **Unicode** | **Sign** | **Name** |
| 0x00 | 0x40 | 0x0040 | @ | COMMERCIAL AT |
| 0x01 | 0xA3 | 0x00A3 | £ | POUND SIGN |
| 0x02 | 0x24 | 0x0024 | $ | DOLLAR SIGN |
| 0x03 | 0xA5 | 0x00A5 | ¥ | YEN SIGN |
| 0x04 | 0xE8 | 0x00E8 | è | LATIN SMALL LETTER E WITH GRAVE |
| 0x05 | 0xE9 | 0x00E9 | é | LATIN SMALL LETTER E WITH ACUTE |
| 0x06 | 0xF9 | 0x00F9 | ù | LATIN SMALL LETTER U WITH GRAVE |
| 0x07 | 0xEC | 0x00EC | ì | LATIN SMALL LETTER I WITH GRAVE |
| 0x08 | 0xF2 | 0x00F2 | ò | LATIN SMALL LETTER O WITH GRAVE |
| 0x09 | 0xE7 | 0x00E7 | ç | LATIN SMALL LETTER C WITH CEDILLA |
| 0x0A | 0x0A | 0x000A | | LINE FEED |
| 0x0B | 0xD8 | 0x00D8 | Ø | LATIN CAPITAL LETTER O WITH STROKE |
| 0x0C | 0xF8 | 0x00F8 | ø | LATIN SMALL LETTER O WITH STROKE |
| 0x0D | 0x0D | 0x000D | | CARRIAGE RETURN |
| 0x0E | 0xC5 | 0x00C5 | Å | LATIN CAPITAL LETTER A WITH RING ABOVE |
| 0x0F | 0xE5 | 0x00E5 | å | LATIN SMALL LETTER A WITH RING ABOVE |
| 0x10 | | 0x0394 | Δ | GREEK CAPITAL LETTER DELTA |
| 0x11 | 0x5F | 0x005F | _ | LOW LINE |
| 0x12 | | 0x03A6 | Φ | GREEK CAPITAL LETTER PHI |
| 0x13 | | 0x0393 | Γ | GREEK CAPITAL LETTER GAMMA |
| 0x14 | | 0x039B | Λ | GREEK CAPITAL LETTER LAMDA |
| 0x15 | | 0x03A9 | Ω | GREEK CAPITAL LETTER OMEGA |
| 0x16 | | 0x03A0 | Π | GREEK CAPITAL LETTER PI |
| 0x17 | | 0x03A8 | Ψ | GREEK CAPITAL LETTER PSI |
| 0x18 | | 0x03A3 | Σ | GREEK CAPITAL LETTER SIGMA |
| 0x19 | | 0x0398 | Θ | GREEK CAPITAL LETTER THETA |
| 0x1A | | 0x039E | Ξ | GREEK CAPITAL LETTER XI |
| 0x1B* | 0xA0 | 0x00A0 | | ESCAPE TO EXTENSION TABLE |
| 0x1B0A* | 0x0C | 0x000C | | FORM FEED |
| 0x1B14* | 0x5E | 0x005E | ^ | CIRCUMFLEX ACCENT |
| 0x1B28* | 0x7B | 0x007B | { | LEFT CURLY BRACKET |
| 0x1B29* | 0x7D | 0x007D | } | RIGHT CURLY BRACKET |
| 0x1B2F* | 0x5C | 0x005C | \ | REVERSE SOLIDUS |
| 0x1B3C* | 0x5B | 0x005B | [ | LEFT SQUARE BRACKET |
| 0x1B3D* | 0x7E | 0x007E | ~ | TILDE |
| 0x1B3E* | 0x5D | 0x005D | ] | RIGHT SQUARE BRACKET |
| 0x1B40* | 0x7C | 0x007C | | | VERTICAL LINE |
| 0x1B65* | | 0x20AC | € | EURO SIGN |

| 0x1C | 0xC6 | 0x00C6 | Æ | LATIN CAPITAL LETTER AE |
|------|------|--------|---|-------------------------|
| 0x1D | 0xE6 | 0x00E6 | æ | LATIN SMALL LETTER AE |
| 0x1E | 0xDF | 0x00DF | ß | LATIN SMALL LETTER SHARP S (German) |
| 0x1F | 0xC9 | 0x00C9 | É | LATIN CAPITAL LETTER E WITH ACUTE |
| 0x20 | 0x20 | 0x0020 | | SPACE |
| 0x21 | 0x21 | 0x0021 | ! | EXCLAMATION MARK |
| 0x22 | 0x22 | 0x0022 | " | QUOTATION MARK |
| 0x23 | 0x23 | 0x0023 | # | NUMBER SIGN |
| 0x24 | 0xA4 | 0x00A4 | ¤ | CURRENCY SIGN |
| 0x25 | 0x25 | 0x0025 | % | PERCENT SIGN |
| 0x26 | 0x26 | 0x0026 | & | AMPERSAND |
| 0x27 | 0x27 | 0x0027 | ' | APOSTROPHE |
| 0x28 | 0x28 | 0x0028 | ( | LEFT PARENTHESIS |
| 0x29 | 0x29 | 0x0029 | ) | RIGHT PARENTHESIS |
| 0x2A | 0x2A | 0x002A | * | ASTERISK |
| 0x2B | 0x2B | 0x002B | + | PLUS SIGN |
| 0x2C | 0x2C | 0x002C | , | COMMA |
| 0x2D | 0x2D | 0x002D | - | HYPHEN-MINUS |
| 0x2E | 0x2E | 0x002E | . | FULL STOP |
| 0x2F | 0x2F | 0x002F | / | SOLIDUS |
| 0x30 | 0x30 | 0x0030 | 0 | DIGIT ZERO |
| 0x31 | 0x31 | 0x0031 | 1 | DIGIT ONE |
| 0x32 | 0x32 | 0x0032 | 2 | DIGIT TWO |
| 0x33 | 0x33 | 0x0033 | 3 | DIGIT THREE |
| 0x34 | 0x34 | 0x0034 | 4 | DIGIT FOUR |
| 0x35 | 0x35 | 0x0035 | 5 | DIGIT FIVE |
| 0x36 | 0x36 | 0x0036 | 6 | DIGIT SIX |
| 0x37 | 0x37 | 0x0037 | 7 | DIGIT SEVEN |
| 0x38 | 0x38 | 0x0038 | 8 | DIGIT EIGHT |
| 0x39 | 0x39 | 0x0039 | 9 | DIGIT NINE |
| 0x3A | 0x3A | 0x003A | : | COLON |
| 0x3B | 0x3B | 0x003B | ; | SEMICOLON |
| 0x3C | 0x3C | 0x003C | < | LESS-THAN SIGN |
| 0x3D | 0x3D | 0x003D | = | EQUALS SIGN |
| 0x3E | 0x3E | 0x003E | > | GREATER-THAN SIGN |
| 0x3F | 0x3F | 0x003F | ? | QUESTION MARK |
| 0x40 | 0xA1 | 0x00A1 | ¡ | INVERTED EXCLAMATION MARK |
| 0x41 | 0x41 | 0x0041 | A | LATIN CAPITAL LETTER A |
| 0x42 | 0x42 | 0x0042 | B | LATIN CAPITAL LETTER B |
| 0x43 | 0x43 | 0x0043 | C | LATIN CAPITAL LETTER C |
| 0x44 | 0x44 | 0x0044 | D | LATIN CAPITAL LETTER D |
| 0x45 | 0x45 | 0x0045 | E | LATIN CAPITAL LETTER E |
| 0x46 | 0x46 | 0x0046 | F | LATIN CAPITAL LETTER F |
| 0x47 | 0x47 | 0x0047 | G | LATIN CAPITAL LETTER G |
| 0x48 | 0x48 | 0x0048 | H | LATIN CAPITAL LETTER H |
| 0x49 | 0x49 | 0x0049 | I | LATIN CAPITAL LETTER I |
| 0x4A | 0x4A | 0x004A | J | LATIN CAPITAL LETTER J |
| 0x4B | 0x4B | 0x004B | K | LATIN CAPITAL LETTER K |
| 0x4C | 0x4C | 0x004C | L | LATIN CAPITAL LETTER L |
| 0x4D | 0x4D | 0x004D | M | LATIN CAPITAL LETTER M |
| 0x4E | 0x4E | 0x004E | N | LATIN CAPITAL LETTER N |
| 0x4F | 0x4F | 0x004F | O | LATIN CAPITAL LETTER O |
| 0x50 | 0x50 | 0x0050 | P | LATIN CAPITAL LETTER P |

| 0x51 | 0x51 | 0x0051 | Q | LATIN CAPITAL LETTER Q |
|------|------|--------|---|------------------------|
| 0x52 | 0x52 | 0x0052 | R | LATIN CAPITAL LETTER R |
| 0x53 | 0x53 | 0x0053 | S | LATIN CAPITAL LETTER S |
| 0x54 | 0x54 | 0x0054 | T | LATIN CAPITAL LETTER T |
| 0x55 | 0x55 | 0x0055 | U | LATIN CAPITAL LETTER U |
| 0x56 | 0x56 | 0x0056 | V | LATIN CAPITAL LETTER V |
| 0x57 | 0x57 | 0x0057 | W | LATIN CAPITAL LETTER W |
| 0x58 | 0x58 | 0x0058 | X | LATIN CAPITAL LETTER X |
| 0x59 | 0x59 | 0x0059 | Y | LATIN CAPITAL LETTER Y |
| 0x5A | 0x5A | 0x005A | Z | LATIN CAPITAL LETTER Z |
| 0x5B | 0xC4 | 0x00C4 | Ä | LATIN CAPITAL LETTER A WITH DIAERESIS |
| 0x5C | 0xD6 | 0x00D6 | Ö | LATIN CAPITAL LETTER O WITH DIAERESIS |
| 0x5D | 0xD1 | 0x00D1 | Ñ | LATIN CAPITAL LETTER N WITH TILDE |
| 0x5E | 0xDC | 0x00DC | Ü | LATIN CAPITAL LETTER U WITH DIAERESIS |
| 0x5F | 0xA7 | 0x00A7 | § | SECTION SIGN |
| 0x60 | 0xBF | 0x00BF | ¿ | INVERTED QUESTION MARK |
| 0x61 | 0x61 | 0x0061 | a | LATIN SMALL LETTER A |
| 0x62 | 0x62 | 0x0062 | b | LATIN SMALL LETTER B |
| 0x63 | 0x63 | 0x0063 | c | LATIN SMALL LETTER C |
| 0x64 | 0x64 | 0x0064 | d | LATIN SMALL LETTER D |
| 0x65 | 0x65 | 0x0065 | e | LATIN SMALL LETTER E |
| 0x66 | 0x66 | 0x0066 | f | LATIN SMALL LETTER F |
| 0x67 | 0x67 | 0x0067 | g | LATIN SMALL LETTER G |
| 0x68 | 0x68 | 0x0068 | h | LATIN SMALL LETTER H |
| 0x69 | 0x69 | 0x0069 | i | LATIN SMALL LETTER I |
| 0x6A | 0x6A | 0x006A | j | LATIN SMALL LETTER J |
| 0x6B | 0x6B | 0x006B | k | LATIN SMALL LETTER K |
| 0x6C | 0x6C | 0x006C | l | LATIN SMALL LETTER L |
| 0x6D | 0x6D | 0x006D | m | LATIN SMALL LETTER M |
| 0x6E | 0x6E | 0x006E | n | LATIN SMALL LETTER N |
| 0x6F | 0x6F | 0x006F | o | LATIN SMALL LETTER O |
| 0x70 | 0x70 | 0x0070 | p | LATIN SMALL LETTER P |
| 0x71 | 0x71 | 0x0071 | q | LATIN SMALL LETTER Q |
| 0x72 | 0x72 | 0x0072 | r | LATIN SMALL LETTER R |
| 0x73 | 0x73 | 0x0073 | s | LATIN SMALL LETTER S |
| 0x74 | 0x74 | 0x0074 | t | LATIN SMALL LETTER T |
| 0x75 | 0x75 | 0x0075 | u | LATIN SMALL LETTER U |
| 0x76 | 0x76 | 0x0076 | v | LATIN SMALL LETTER V |
| 0x77 | 0x77 | 0x0077 | w | LATIN SMALL LETTER W |
| 0x78 | 0x78 | 0x0078 | x | LATIN SMALL LETTER X |
| 0x79 | 0x79 | 0x0079 | y | LATIN SMALL LETTER Y |
| 0x7A | 0x7A | 0x007A | z | LATIN SMALL LETTER Z |
| 0x7B | 0xE4 | 0x00E4 | ä | LATIN SMALL LETTER A WITH DIAERESIS |
| 0x7C | 0xF6 | 0x00F6 | ö | LATIN SMALL LETTER O WITH DIAERESIS |
| 0x7D | 0xF1 | 0x00F1 | ñ | LATIN SMALL LETTER N WITH TILDE |
| 0x7E | 0xFC | 0x00FC | ü | LATIN SMALL LETTER U WITH DIAERESIS |
| 0x7F | 0xE0 | 0x00E0 | à | LATIN SMALL LETTER A WITH GRAVE |

*: These characters belong to the GSM Extended Character Table and count as 2 characters due to their larger size. Character 0x1B is used always as the start of such a character.

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