



etracker

BULK SMS

API Specifications

June 2017 | Version 3.26

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1.0 Introduction

This etracker Bulk SMS API document is specifically designed for client's developers and implementers with basic programming knowledge to make HTTP / HTTPS connections with REST/SOAP method between etracker bulk SMS gateway and the client's application.

This document will highlight the process of sending and receiving messages by simply submitting either a POST or a GET request to etracker bulk SMS gateway.

However, the POST method is recommended as opposed to the GET method due to the limitation of size and exposure of the HTTP / HTTPS URL bar when a request submission is made.

etracker Bulk SMS gateway has the ability to deliver messages to mobile operator's subscribers regardless of prepaid or postpaid.

1.1 Overview

etracker Bulk SMS API enables content providers to send large numbers of SMS to mobile subscribers. It is a gateway that allows content providers to advertise about their products and services. Content providers are charged for these SMS, as they send out marketing blasts such as discount/promotion offers, whilst mobile subscribers receive these contents free of charge.

2.0 Guide to Use this API document

In short these are few details that you need to pay attention to:

- (i) Understand the following terms/concepts because it will help you move quickly through the document.

Terms	Definition						
-1 response	This refers to Asynchronous response whereby you as the client acknowledge that you have received the MO and agree to provide the MT at a later time.						
API	<u>Application Programming Interface</u> The interface that a computer system, library or application provides in order to allow requests for services to be made out of it by other computer programs, and/or to allow data to be exchanged between them.						
Asynchronous	Refers to delayed MT return from the clients to the mobile subscriber. Also known as '-1' parameter.						
Blacklisted Numbers	Numbers which have been requested to be removed from receiving certain categories of promotional messages.						
Client	Content Provider (CP)						
Endpoint	An endpoint is a web service, defined by a WSDL file. It defines the address or connection point to a web service. It is typically represented by a simple HTTP URL string.						
Encode	<p>This means that the MT content and/or URL is coded into computer language to deliver the message to the client's application and vice versa.</p> <p>Example:</p> <table border="1"> <thead> <tr> <th>Before Encoding</th><th>After Encoding</th></tr> </thead> <tbody> <tr> <td>Hello World</td><td>Hello%20World</td></tr> <tr> <td>http://www.yourdomain.com/receive.asp?from=631234567890&text=hello world&time=yyyy-mm-ddhh-mm-ss&moid=1234567&shortcode=2929&telcoid=1</td><td>http%3A%2F%2Fwww.yourdomain.com%2Freceive.asp%3Ffrom%3D631234567890%26text%3Dhello%20world%26time%3Dyyyy-mm-ddhh-mm-ss%26moid%3D1234567%26shortcode%3D2929%26telcoid%3D1</td></tr> </tbody> </table> <p>You can encode the contents and URL by using the Macrokiiosk converter stated here: http://utilities.etracker.cc/converter/converter.aspx</p>	Before Encoding	After Encoding	Hello World	Hello%20World	http://www.yourdomain.com/receive.asp?from=631234567890&text=hello world&time=yyyy-mm-ddhh-mm-ss&moid=1234567&shortcode=2929&telcoid=1	http%3A%2F%2Fwww.yourdomain.com%2Freceive.asp%3Ffrom%3D631234567890%26text%3Dhello%20world%26time%3Dyyyy-mm-ddhh-mm-ss%26moid%3D1234567%26shortcode%3D2929%26telcoid%3D1
Before Encoding	After Encoding						
Hello World	Hello%20World						
http://www.yourdomain.com/receive.asp?from=631234567890&text=hello world&time=yyyy-mm-ddhh-mm-ss&moid=1234567&shortcode=2929&telcoid=1	http%3A%2F%2Fwww.yourdomain.com%2Freceive.asp%3Ffrom%3D631234567890%26text%3Dhello%20world%26time%3Dyyyy-mm-ddhh-mm-ss%26moid%3D1234567%26shortcode%3D2929%26telcoid%3D1						
HTTPS	<u>Hypertext Transfer Protocol Secure</u>						

	HTTPS encrypts and decrypts user page requests as well as the pages that are returned by the Web server. The use of HTTPS protects against eavesdropping and man-in-the-middle attacks.
Known Issues	Issues that are beyond MACROKIOSKs control but highlighted to clients for their knowledge.
Marketing Applies	It means the same thing as 'Promotional Messages'. Kindly refer to 'Promotional Messages'.
Promotional Messages	Refers to messages containing promotional material or advertisement of a product/service.
Synchronous	Refers to immediate MT return from the clients to the mobile subscriber. Also known as '4-parameter'.
System Limitation	Refers to MACROKIOSK's system limitation which may be further enhanced in the future depending on client's requirement.
TPS	Transaction per second is a computer software and hardware measurement that represents the number of transactions completed in one second.
Transactional Messages	<p>"Transactional message" means an SMS containing only—</p> <ul style="list-style-type: none"> (i) information sent to its customer(s) by the Bank or financial institution or insurance company or credit card company or Access Provider pertaining to the account of that customer(s); (ii) information given by transport operators or its authorized agencies to its passengers regarding travel schedules, ticket booking and reservation; (iii) information from a registered educational institution to parents or guardians of its students; (iv) any other message as may be specified by the Authority, from time to time.
WEBF	<u>Web Failed</u> Failed to pass the MO (Mobile Originating) parameters to the client's URL.



- (ii) Pay attention to the 'Remember' image posted throughout the document. This is highlighted for you to take note when doing system integration.



- (iii) The 'Tool' image in most section gives you the endpoints and methods required to send the parameters across to MACROKIOSK and versa.

- (iv) Selected texts throughout this document are hyperlinked.

e.g. Refer to [Known Issue](#)

You can click on the hyperlinks to get more information on the selected text.

- (v) Notes are highlighted in pink for easy notice.

- (vi) Please note that the commercial information of the product such as the product feature, process flow etc. can be found in the *References for etracker Bulk SMS API*.



3.0 Important Notes Clients

1. Please apply for the Bulk SMS User Accounts to receive MO and send MT. You will be able to use a shortcode via etracker Bulk SMS gateway, once these accounts have been registered.
2. Delivery Notifications (DN) will be updated periodically for all content providers subject to the frequency set by the respective mobile operators.
3. The SMSC (Short Messaging Service Centre) will retry the sending of a message to the mobile subscriber within the stipulated retry policy set by each respective mobile operator's SMSC.
4. Failure to deliver will result in the message being deleted from the SMSC.
5. Client is responsible for the following:
 - a. Content format compatibility with the mobile handset.
 - b. Ensure correct encoding format is used according to message content type before sending it over to etracker Bulk SMS API gateway.

4.0 Specification

4.1 Receiving MO Messages

4.1.1 Receiving MO Messages via LongCode



To do this....	Use this endpoint	Method	Expected response from Client
Receive MO messages from MACROKIOSK.	http://www.yourdomain.com/receive.asp?	GET/ POST	-1

The following are the parameters that will be included to the endpoint above:

Parameter	Type	Description	Example
msisdn	Numeric	Recipient's mobile number	60121234567
Text	Character	Message content. <i>The content and the service keyword will be URL encoded.</i> <i>Service keywords are at least 1 character long and special characters (*, -, +, space etc.) are not permitted.</i>	ON%20ABC
Time	Date/time	Timestamp of the MO received Format: yyyy-mm-ddhh:mm:ss	2014-12-3123:59:01
Msgid	Numeric	Message ID. <i>Each MO received will be tagged with a unique Message ID.</i>	1234567
Longcode	Numeric	Macro Kiosk's Longcode (msisdn) of which the MO was received.	60138883338

Example:

[http://www.yourdomain.com/receive.asp?msisdn=60121234567&text=ON%20ABC
&time=yyyy-mm-ddhh:mm:ss&msgid=123456&longcode=60138883338](http://www.yourdomain.com/receive.asp?msisdn=60121234567&text=ON%20ABC&time=yyyy-mm-ddhh:mm:ss&msgid=123456&longcode=60138883338)

4.1.2 Receiving MO Messages via Zero Charged Bulk Shortcode



To do this....	Use this endpoint	Method	Successful response from etracker
Receive MO messages from MACROKIOSK	http://www.yourdomain.com/receive.asp?	GET/ POST	-1

The following are the parameters that will be included to the endpoint above:

Field name	Type	Description	Example
From	Numeric	Recipient's mobile number	60121234567
Text	Character	Message content. <i>The content and the service keyword will be URL encoded.</i> <i>Service keywords are at least 1 character long and special characters (*, -, +, space etc.) are not permitted.</i>	ON%20ABC
Time	Date/time	Timestamp of the MO received Format: yyyy-mm-ddhh:mm:ss	2014-12-3123:59:01
Msgid	Numeric	Message ID <i>Every MO received will be tagged with a unique message identifier.</i>	1234567
Shortcode	Numeric	Shortcode of which the MO was received.	66300
Telcoid	Numeric	To indicate mobile operator Malaysia (where "From" field consists of prefix 60):- 1 – Maxis 3 – Digi 2/4 – Celcom 5 – U Mobile Singapore (where "From" field consists of prefix 65):- 1 – SingTel Mobile 2 – MobileOne 3 – StarHub	1

Example

<http://www.yourdomain.com/receive.asp?from=60121234567&text=ON%20ABC&time=yyyy-MM-ddhh:mm:ss&msgid=1234567&shortcode=66300&telcoid=1>

Note:

- The zero charged premium shortcode MO, is still available for Singapore.
- For Celcom 2 way messages, please refer to [Known Issues](#).

4.2 Client's Response upon receiving MO Messages

1. Upon receiving a request, the client must acknowledge the MO by indicating '-1' in plain text without HTML tags.
2. If the clients' application does not respond to the MO as above, etracker Bulk SMS gateway will assume that the message failed to be delivered to clients' application, resulting in a WEBF (Web Failed) status.
3. For Celcom 2 way messages, please refer to [Known Issues](#).

4.3 Sending MT for Normal Text (ASCII) Messages



To do this....	Use this endpoint	Method
Send MT to etracker	http://www.etracker.cc/bulksms/mesapi.aspx?	GET/ POST

Successful response from etracker	Successful response from etracker With "Detail" parameter
{MSISDN},{MsgID},{Status}	{MSISDN},{MsgID},{Status},{Currency},{Price}={Balance}, {Total MSISDN}

The parameters below must be affixed to the endpoint above.

No	Parameter	Type	Description	Example
1	User	Character	Username of the client's account <ul style="list-style-type: none"> Username will be provided once account is activated 	Company123
2	Pass	Character	Password for authentication.	abc4567
3	Type	Numeric	Character type for text: 0 – ASCII 5 - Unicode	0
4	To	Numeric	Recipient's mobile number <ul style="list-style-type: none"> The recipient's mobile number must have the country code (without the "+" sign). 	60121234567
5	From	Character	Sender's name, Sender's ID or Sender's number. Format: alphanumeric &/ numeric character <ul style="list-style-type: none"> ✓ Numeric CLI (Caller Line Identification): Up to 14 characters. The '+' to be excluded. ✓ Alphanumeric CLI (Caller Line Identification): Up to 11 characters. 	Abcenterprise Or Shania Or 60123388990 *Format is Telco dependent
6	Text	Character	Message Content <ul style="list-style-type: none"> The content must be URL encoded. 	Welcome%20to %20abcenterprise
7	ServID	Character	Service ID	MES01

8	Title	Character	Broadcast Title <ul style="list-style-type: none"> Alphanumeric only, max 50 characters 	Sports555 *optional parameter
9	Detail	Boolean	To show additional information of: <ul style="list-style-type: none"> Account balance Total MSISDN in one API request Charge for each MSISDN Currency for each charge Parameter Value: <ul style="list-style-type: none"> 1 – Show 0 – Hide (default) 	1 *optional parameter

Example:

<http://www.etracker.cc/bulksms/mesapi.aspx?user=company123&pass=abc4567&type=5&to=60121234567&from=Abcenterprise&text=4e00&servid=MES01&title=SampleTitle>

Example with optional “Detail” parameter:

<http://www.etracker.cc/bulksms/mesapi.aspx?user=company123&pass=abc4567&type=5&to=60121234567&from=Abcenterprise&text=4e00&servid=MES01&title=SampleTitle&detail=1>

Note:

- When sending MT, the “Detail” parameter is applicable for the following section:
 - 4.3 Sending MT for Normal Text (ASCII) Messages
 - 4.4 Sending MT for Unicode (UCS2) Messages (Multilingual)
 - 4.5 Sending MT for UDH Header Messages (8bit, EMS)
- The “Detail” parameter is NOT applicable for the following section:
 - 4.6 Sending MT via REST HTTP GET
 - 4.7 Sending MT via REST HTTP POST
 - 4.8 Sending MT via SOAP Web Service

Sample of respond with the following assumption:

- Prepaid Account Balance (before request) is MYR 100.00 (Malaysia Ringgit)
- Price for each SMS cost MYR 0.05
- For Postpaid account, account balance will be always show zero.

No. of MSISDN in one API request	Successful MT respond
One MSISDN	60121234567,118888001,200,MYR,0.05 =99.9500,1
Three MSISDN	60121234567,118888001,200,MYR,0.05 60131234008,118888002,200,MYR,0.05 60141234009,118888003,200,MYR,0.05 =99.8500,3

Example: (Concatenated SMS)

<http://www.etracker.cc/bulksms/mesapi.aspx?user=user&pass=password&type=0&to=60121234567&from=macrokiosk&text=this+is+a+test+SMS+message+to+send+SMS+content+greater+than+160+characters+in+a+single+URL+call+the+concatenated+SMS+should+be+displayed+on+the+mobile+phone+as+one+whole+SMS&servid=MES01>

* Please refer to [Known Issues](#) for Telcos not supporting the concatenated format.

Note:

1. The etracker bulk SMS API will return 3 values as specified in [DN](#).
The 3 parameters are:
 - msgID - The id returned to the application when MT is sent.
 - msisdn - The mobile number of the recipient when MT is sent.
 - status – The MT acknowledgement from etracker.
2. In accordance to the Malaysian Telco guidelines, where sending to Malaysia prefix (60, the system will auto append "RM0.00" at the beginning of SMS. This will consume 7 characters (i.e., RM0.00<space>) from the total characters count of the message.
3. Credits will be deducted accordingly if the total characters count is more than 1 SMS after auto appending.
4. For more information, please refer to the latest Bulk SMS Product Paper.

4.4 Sending MT for Unicode (UCS2) Messages (Multilingual)



To do this....	Use this endpoint	Method
Send MT to etracker	http://www.etracker.cc/bulksms/mesapi.aspx?	GET/ POST

Successful response from etracker	Successful response from etracker With "Detail" parameter
{MSISDN}, {MsgID}, {Status}	{MSISDN}, {MsgID}, {Status} ={Balance}, {Total MSISDN}

The parameters below must be affixed to the endpoint above.

No	Parameter	Type	Description	Example
1	User	Character	Username of the client's account <ul style="list-style-type: none"> Username will be provided once account is activated 	Company123
2	Pass	Character	Password for authentication.	abc4567
3	Type	Numeric	Character type: 5 - UCS formatted	5
4	To	Numeric	Recipient's mobile number <ul style="list-style-type: none"> The recipient's mobile number must have the country code (without the "+" sign). 	60121234567
5	From	Character	Sender's name, Sender's ID or Sender's number. Format: alphanumeric &/ numeric character <ul style="list-style-type: none"> ✓ Numeric CLI (Caller Line Identification): Up to 14 characters. The '+' to be excluded. ✓ Alphanumeric CLI (Caller Line Identification): Up to 11 characters. 	Abcenterprise Or Shania Or 60123388990 *Format is Telco dependent
6	Text	Character	Message Content <ul style="list-style-type: none"> The content must be UCS formatted. 	4e00
7	ServID	Character	Service ID	MES01

8	Title	Character	Broadcast Title <ul style="list-style-type: none">Alphanumeric only, max 50 characters	Broadcast123 *optional parameter
9	Detail	Boolean	To show additional information of: <ul style="list-style-type: none">Account balanceTotal MSISDN in one API requestCharge for each MSISDNCurrency for each charge Parameter Value: 1 – Show 0 – Hide (default)	1 *optional parameter

Example:

<http://www.etracker.cc/bulksms/mesapi.aspx?user=company123&pass=abc4567&type=5&to=60121234567&from=Abcenterprise&text=4e00&servid=MES01>

Note:

- To understand more about Unicode, please logon to www.unicode.org
- In accordance to the Malaysian Telco guidelines, where sending to Malaysia prefix (60) is concerned, the system will auto append "RM0.00" at the beginning of SMS. This will consume 7 characters (i.e., RM0.00<space>) from the total characters count of the message & credits will be deducted accordingly.

4.5 Sending MT for UDH Header Messages (8bit, EMS)



To do this....	Use this endpoint	Method
Send MT to etracker	http://www.etracker.cc/bulksms/mesapi.aspx?	GET/ POST

Successful response from etracker	Successful response from etracker With "Detail" parameter
{MSISDN}, {MsgID}, {Status}	{MSISDN}, {MsgID}, {Status} ={Balance}, {Total MSISDN}

The parameters below must be affixed to the endpoint above.

No	Parameter	Type	Description	Example
1	User	Character	Username of the client's account <ul style="list-style-type: none"> Username will be provided once account is activated 	Company123
2	Pass	Character	Password for authentication.	abc4567
3	Type	Numeric	Character type: 6 - UDH formatted	6
4	To	Numeric	Recipient's mobile number <ul style="list-style-type: none"> The recipient's mobile number must have the country code (without the "+" sign). 	60121234567
5	From	Character	Sender's name, Sender's ID or Sender's number. Format: alphanumeric &/ numeric character <ul style="list-style-type: none"> ✓ Numeric CLI (Caller Line Identification): Up to 14 characters. The '+' to be excluded. ✓ Alphanumeric CLI (Caller Line Identification): Up to 11 characters. 	Abcenterprise Or Shania Or 60123388990 *Format is Telco dependent
6	Text	Character	Message Content <ul style="list-style-type: none"> The content must be UDH statement in hexbin format. 	Refer to example below.

7	ServID	Character	Service ID	MES01
8	Title	Character	Broadcast Title <ul style="list-style-type: none"> Alphanumeric only, max 50 characters 	Broadcast123 *optional parameter
9	Detail	Boolean	To show additional information of: <ul style="list-style-type: none"> Account balance Total MSISDN in one API request Charge for each MSISDN Currency for each charge Parameter Value: 1 – Show 0 – Hide (default)	1 *optional parameter

Example: (Operator Logo)

```
text=0605041582158205F26100480E01014809B0001DFF780000A816CC000300F0000
1E00040003A00200000000040001000F00000C00040001001F00000200940001921100
000100940001920100000600B40001000F000008000A00013F0DC000081C0A0005409F
8000071472000B7F83C00000940200043F00C000004C14001F000380000027E800078E
0F800
```

Example: (Picture message - multipart)

```
text=0B0504158A158A00030003013002010000481C01000AABAAAAAAAE28000D5F5
55555555600000AAAAAAAE00001D557D55555555600003AAB83AAAEAAAA0000555
700D557D5560001AABE002AAAFEAE001F57F3001D5555DC54FAF980800EAAAAAE80F40
E00404155555600000E002080EAAAAB00000C0021803D555580000E00210007AAAAC00
00604text=0B0504158A158A0003000302210003FD556000020E2100020FEAB8000300
411801007F5D000300810801004FFA00010181000100C07F00008300800000E0000000
7E10C00307E00000003838600E066000000564181030183551002AE2000FE0F022AA15
5541C00057C03004AAA088F83FF800300A54018D1FF40100100700018180003E00100F
0001010000text=0B0504158A158A00030003036000100F00000465666768
```

Note:
1. Codes highlighted in Red

- 30: - format version (must be always be 30)
- 02: - indicates OTA (Over the Air) bitmap
- 01 00: - indicates item length in hex (must always be 0100 hex which is equivalent to 256 bytes)

2. Codes highlighted in Purple (at end of UDH)

- 00: - indicates text message type (length <=110 bytes)
- 00 04: - indicates item length in hex (length = 4)

3. Legend for sending 8-bit messages

- **Blue** – UDH
- **Green** – Mobile Operator Code (MOC)
- **Red** – Picture Message type to set
- **Purple** – Text in Picture Message

Example: (Service Indicator (SI) Message)

```
text=0B05040B8423F00003840101C5061D03AE8184456E636F64696E672D566572736
96F6E00312E3300AF82B4850205040045C60C033230322E392E3130342E3131302F637
02F6D6964692F63616E6F6E696E442E6D69640011033100010352696E67746F6E6500
101
```

Legend for sending SI Message:

- **blue** = UDH
- **red** = SI Indicators
- **green** = string terminator
- **black** = hex value
- **(bold)** = mms title
- (normal) = mms url

4.6 Sending MT via REST HTTP GET



To do this....	Use this endpoint	Method	Successful response from etracker
Send MT to etracker	https://www.etracker.cc/bulksms/send?	GET	Returned in XML or JSON format Refer to Response (I)

The following sample code shows how MT can be sent via Rest HTTP GET in .NET:

```
protected async void btnGetSend_Click(object sender, EventArgs e)
{
    string response = null;

    try
    {
        #region Validation of all the parameters before submitting API request
        #endregion

        //Format the REST GET API URL
        string apiFormat =
"http://etracker.cc/MES/Send?user={0}&pass={1}&type={2}&to={3}&from={4}&text={5}&servid={6}&title={7}";
        string api = string.Format(apiFormat, txtUser.Text, txtPass.Text, txtType.Text, txtTo.Text,
txtFrom.Text, txtText.Text, txtServiceID.Text,txtTitle.Text);

        using (HttpClient httpClient = new HttpClient())
        {
            //Assign the value of the Accept ("application/xml" or "application/json") header for an HTTP
request in order to get the response in the desired format.
            httpClient.DefaultRequestHeaders.Accept.Add(new
MediaTyewithQualityHeaderValue("application/json"));

            //Send HTTP GET request to the formatted API URL
            response = await httpClient.GetStringAsync(new Uri(api));
        }
    }
    catch (Exception ex)
    {
        response = ex.Message;
    }
    finally
    {
        MessageBox.Show(response);
    }
}
```

Alternatively, MT can be sent via browser by entering the HTTP GET URL in the following format:

<https://www.etracker.cc/bulksms/send?user={Username}&pass={Password}&type={MessageType}&to={Recipient}&from={Sender}&text={Message}&servid={ServiceID}&title={Title}>

Response (I)

The response of the MT request differs by the HTTP Accept header value being set.

HTTP Accept header	Response	
	Successful MT request	Failed MT request
application/json	{ "MsgID": "1128260043", "Msisdn": "60123456789", "Status": "200" }	{ "MsgID": "", "Msisdn": "", "Status": "400" }
application/xml	<Result xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"> <MsgID>1128260043</MsgID> <Msisdn>60123456789</Msisdn> <Status>200</Status> </Result>	<Result xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"> <MsgID /> <Msisdn /> <Status>400</Status> </Result>
Null (Trigger from browser without specifying the Accept header)	*XML format will be returned if no Accept header value is specified Refer to xml successful MT request, as above.	*XML format will be returned if no Accept header value is specified Refer to XML Failed MT request, as above.
Other format (eg: application/x-www-form-urlencoded)	*XML format will be returned if Accept header value other than XML or JSON is specified Refer to xml successful MT request, as above.	*XML format will be returned if Accept header value other than XML or JSON is specified Refer to XML Failed MT request, as above.

Note:

1. Please refer **Section [4.3](#), [4.4](#), or [4.5](#)** for the correct configuration of the required parameter keys and values, based on the type of the MT to be sent.
2. The encoding of the MT message content via REST HTTP GET:
ASCII: **must be URL encoded**
Unicode: **must be UCS formatted.**

4.7 Sending MT via REST HTTP POST



To do this....	Use this endpoint	Method	Successful response from etracker
Send MT to etracker	https://www.etracker.cc/bulksms/send	POST	Return in XML or JSON format Refer to Response (II)

The following sample code shows how MT can be sent via Rest HTTP POST in .NET.

Json.NET has been used in this sample to serialize the MT request data into JSON format.

```
protected async void btnPostSend_Click(object sender, EventArgs e)
{
    string result = null;
    try
    {
        #region Validation of all the parameters before submitting API request
        #endregion

        //Declare anonymous type object
        var obj = new { user = txtUser.Text, pass = txtPass.Text, type = txtType.Text, to = txtTo.Text, from = txtFrom.Text, text = txtText.Text, servid = txtServiceID.Text, title = txtTitle.Text };

        //Serialize the object into JSON string
        string json = JsonConvert.SerializeObject(obj);

        using (HttpClient httpClient = new HttpClient())
        {
            //Store the JSON string as the content to be sent to the web API.
            Specify the HTTP Content-Type header as application/json.
            StringContent content = new StringContent(json);
            content.Headers.ContentType.MediaType = "application/json";

            //Assign the value of the Accept ("application/xml" or "application/json") header for an HTTP request in order to get the response in the desired format.
            httpClient.DefaultRequestHeaders.Accept.Add(new MediaTypeWithQualityHeaderValue("application/json"));

            //Send HTTP GET request to the formatted API URL
            HttpResponseMessage response = await httpClient.PostAsync(new Uri("http://etracker.cc/MES/Send"), content);
            response.EnsureSuccessStatusCode();

            result = response.Content.ReadAsStringAsync().Result;
        }
    }
    catch (Exception ex)
    {
        result = ex.Message;
    }
    finally
    {
        MessageBox.Show(result);
    }
}
```

Response (II)

The response of the MT request differs by the HTTP Accept header value being set.

HTTP Accept header	Response	
	Successful MT request	Failed MT request
application/json	<pre>{ "MsgID": "1128260043", "Msisdn": "60123456789", "Status": "200" }</pre>	<pre>{ "MsgID": "", "Msisdn": "", "Status": "400" }</pre>
application/xml	<pre><Result xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"> <MsgID>1128260043</MsgID> <Msisdn>60123456789</Msisdn> <Status>200</Status> </Result></pre>	<pre><Result xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"> <MsgID /> <Msisdn/> <Status>400</Status> </Result></pre>
Null (Trigger from browser without specifying the Accept header)	<p>*XML format will be returned if no Accept header value is specified</p> <p>Refer to xml successful MT request, as above.</p>	<p>*XML format will be returned if no Accept header value is specified</p> <p>Refer to XML Failed MT request, as above.</p>
Other format (eg: application/x-www-form-urlencoded)	<p>*XML format will be returned if Accept header value other than XML or JSON is specified</p> <p>Refer to xml successful MT request, as above.</p>	<p>*XML format will be returned if Accept header value other than XML or JSON is specified</p> <p>Refer to XML Failed MT request, as above.</p>

Note:

1. Please refer to Section [4.3](#), [4.4](#), or [4.5](#) for the correct configuration of the required parameter keys and values, based on the type of the MT to be sent.
2. HTTP 'Content-Type' header must be configured with either value "**application/json**" or "**application/xml**" (highlight until xml), else MT request would fail with the following error message in XML / JSON format, depending on the HTTP 'Accept' header set. If no value has been configured for the 'Accept' header, error message will be returned in XML format by default.

XML:

```
<Result xmlns:xsd=http://www.w3.org/2001/XMLSchema
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <MsgID />
  <Msisdn />
  <Status>Invalid HTTP content media type</Status>
</Result>
```

JSON:

```
{
  "MsgID": "",
  "Msisdn": "",
  "Status": "Invalid HTTP content media type"
}
```

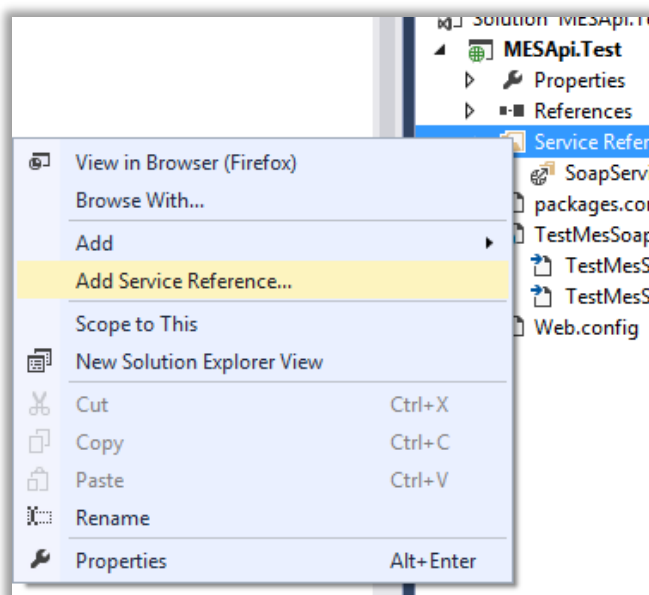
3. The encoding of the MT message content via REST HTTP POST:
ASCII: **should not be URL encoded.**
Unicode: **must be UCS formatted.**
4. MT request data (HTTP body content) must be serialized in proper format before submission.

4.8 Sending MT via SOAP Web Service



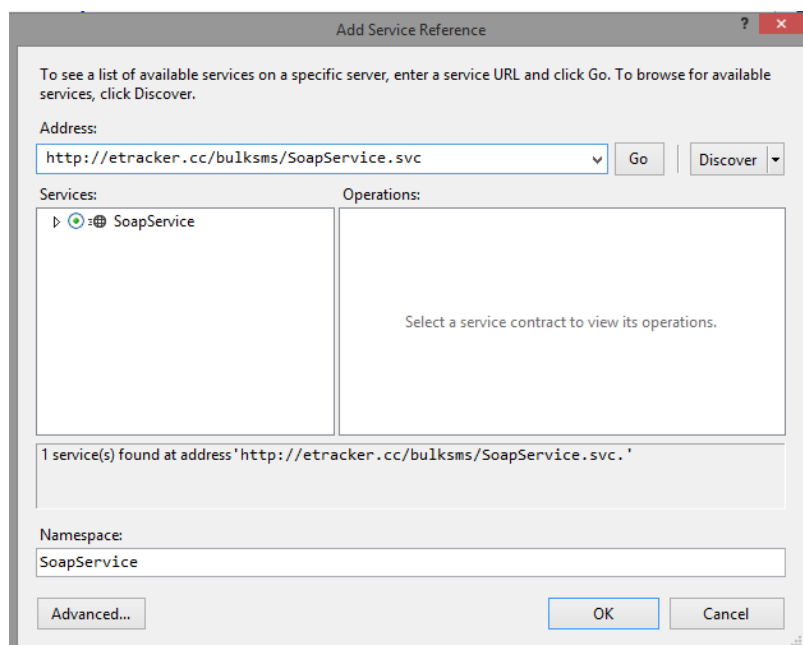
To do this....	Use this endpoint	Method	Successful response from etracker
Send MT to etracker	http://etracker.cc/BulkSMS/SoapService.svc	GET	{Msisdn}, {MsgID}, {Status}

MT can be sent via SOAP web service by sending the MT request to the MES SOAP service endpoint. The following code guide illustrates how you can call the MES SOAP web service using Windows Communication Foundation (WCF) in .NET by posting a [SOAP](#) message to the service endpoint.



1. **Right-click** on your **Visual Studio** project in **Solution Explorer** and select **Add Service Reference**.

2. Enter the MES SOAP web service URL in the **Address** text box and provide a **Namespace** i.e. *SoapService*. Click the **OK** button.



2. Once the service reference is added, please refer to the following sample code to programmatically send the MT.

```
protected async void btnSend_Click(object sender, EventArgs e)
{
    string response = null;
    SoapServiceClient proxy = new SoapServiceClient();

    try
    {
        SoapParam param = new SoapParam
        {
            Username = txtUser.Text,
            Password = txtPass.Text,
            From = txtFrom.Text,
            Msisdn = txtTo.Text,
            MessageType = txtType.Text,
            Text = txtText.Text,
            ServiceID = txtServiceID.Text,
            Title = txtTitle.Text
        };

        response = await proxy.SendAsync(param);
    }
    catch (Exception ex)
    {
        response = ex.Message;
    }
    finally
    {
        MessageBox.Show(response);
    }
}
```

Response (III)

The response of the SOAP service request is in string format:

{Msisdn}, {MsgID}, {Status}

Note:

1. Please refer to **Section 4.3, 4.4, or 4.5** for the correct configuration of the required parameter keys and values, based on the type of the MT to be sent.
2. The encoding of the MT message content via SOAP web service:
 ASCII: **should not be URL encoded.**
 Unicode: **must be UCS formatted.**

4.9 Low Balance Alert (for Prepaid Single & Multi User only)



To do this....	Use this endpoint	Method
Set Low Balance Alert	http://www.etracker.cc/bulksms/LowBalanceAlert/LowBalanceAlertAPI.aspx?	HTTP GET

The parameters below must be affixed to the endpoint above.

No	Parameter	Type	Description	Example
1	User	Character	Username of the client's account <ul style="list-style-type: none"> Username will be provided once account is activated *special character need to be encoded	johndoe123
2	Pass	Character	Password for authentication. *special character need to be encoded	abc4567
3	ServID	Character	Service ID	MES01
4	Alert	Numeric	Set the availability of low balance alert function. Only 0 or 1 is allowed 1 – Enable 0 – Disable # Must have minimum 1 mobile number <u>or</u> 1 email address for low balance alert (if alert enabled)	1

5	Alertbalance	Numeric	<p>3 threshold of Account balance to trigger the alert.</p> <p>Format:</p> <ul style="list-style-type: none"> ✓ Each value separated by coma <u>without</u> currency symbol. ✓ Left blank for empty value. ✓ Only numeric is allowed ✓ No decimal point is allowed • System will sorts the values in descending order. 	300,200,100
6	Phoneno#	Numeric	<p>3 Recipient's mobile number to receive the alert text.</p> <p>Format:</p> <ul style="list-style-type: none"> ✓ 3 mobile number separated by coma. ✓ Left blank for empty value. ✓ Mobile number must have country code & <u>without</u> the "+" sign. ✓ Only numeric is allowed 	60121234567, 60121234568, 60121234569
7	Emailadd#	Email	<p>3 Recipient's email to receive the alert email.</p> <p>Format:</p> <ul style="list-style-type: none"> ✓ 3 recipient email separated by coma. ✓ Left blank for empty value. ✓ Only standard email format allowed 	email1@company.com, email2@company.com, email3@company.com
8	Dailyemail	Numeric	<p>Set the availability of Daily Balance Alert email function.</p> <p>When enable, address set in "emailadd" will receive an email daily at 9am, informing the account balance.</p> <p>1 – Enable 0 – Disable</p> <p># Must have minimum 1 email address</p>	1

Example:**1. Set the Low Balance alert**

- **With 3 alert thresholds**
- **Send to 3 mobile recipients & 3 email recipients**
- **Without the Daily Balance alert email**

<http://www.etracker.cc/bulksms/LowBalanceAlert/LowBalanceAlertAPI.aspx?user=johndoe123&pass=abc4567&servid=mes01&alert=1&phoneno=60121234567,60121234568,60121234569&alertbalance=100,200,300&dailyemail=0&emailadd=email1@company.com,email2@company.com,email3@company.com>

2. Set the Low Balance alert

- **With 2 alert thresholds**
- **Send to 1 email recipients**
- **With Daily Balance alert email**

<http://www.etracker.cc/bulksms/LowBalanceAlert/LowBalanceAlertAPI.aspx?user=johndoe123&pass=abc4567&servid=mes01&alert=1&alertbalance=100,200&dailyemail=1&emailadd=email1@company.com>

3. Set the Low Balance alert

- **With 1 alert threshold**
- **Send to 2 mobile recipients & 1 email recipients**
- **Without Daily Balance alert email**

<http://www.etracker.cc/bulksms/LowBalanceAlert/LowBalanceAlertAPI.aspx?user=johndoe123&pass=abc4567&servid=mes01&alert=1&phoneno=60121234567,60121234568&alertbalance=100&dailyemail=0&emailadd=email1@company.com>

4. Set Daily Balance alert email only

- **Send to 2 email recipients**

<http://www.etracker.cc/bulksms/LowBalanceAlert/LowBalanceAlertAPI.aspx?user=johndoe123&pass=abc4567&servid=mes01&dailyemail=0&emailadd=email1@company.com,email2@company.com>

4.9.1 Low Balance Alert Successful Response from etracker

TransactionID, Respond Code

4.9.2 Low Balance Alert Response Code

Response Code	Description
200	Successful

400	Missing parameter or invalid field type
401	Invalid username, password or ServID
402	Invalid Account Type (when call using postpaid client's account)
403	Invalid Email Format
404	Invalid MSISDN Format
405	Invalid Balance Tier Format (Balance Tier: &alertbalance=300,200,100) (Only numeric is allowed)
500	System Error

4.10 -Low Balance Alert Status (for Prepaid Single and Multi User only)



To do this....	Use this endpoint	Method
Set Low Balance Alert	http://www.etracker.cc/bulksms/LowBalanceAlert/LowBalanceAlertStatus.aspx?	HTTP GET

The parameters below must be affixed to the endpoint above.

No	Parameter	Type	Description	Example
1	User	Character	Username of the client's account <ul style="list-style-type: none"> Username will be provided once account is activated *special character need to be encoded	johndoe123
2	Pass	Character	Password for authentication. *special character need to be encoded	abc4567
3	ServID	Character	Service ID	MES01

Example:

1. Check the Low Balance alert

<http://www.etracker.cc/bulksms/LowBalanceAlert/LowBalanceAlertStatus.aspx?user=johndoe123&pass=abc4567&servid=mes01>

4.10.1 Low Balance Alert Status Response from etracker

```
{TransactionID},{Respond Code},{Alert  
Status},{thresholds1}|{thresholds2}|{thresholds3}|{Currency},{SMS  
Alert}|{Email Alert},{Phone No.1}|{Phone No.2}|{Phone  
No.3},{email1}|{email2}|{email3},{Daily Email Balance}
```

4.10.2 Low Balance Alert Status Response Code

Response Code	Description
200	Successful
400	Missing parameter or invalid field type
401	Invalid username, password or ServID
402	Invalid Account Type (when call using postpaid client's account)
500	System Error

5.0 Delivery Notification (DN)

For real-time DN reports, please login to <https://console.etracker.cc> with the assigned login ID and password.

For API, real time DN is only available upon request to the Global Business Consultants. Once you have requested for real time DN, your DN URL endpoint as shown below will receive the following parameters:

<http://www.yourdomainDNurl/receive.asp>

Parameters	Description
msgID	The message identification that is returned to the application when a MT (Mobile Terminating) is sent.
msisdn	The MT recipient's mobile number.
status	The real-time DN status from Telco.

Example:

<http://www.yourdomainDNurl/receive.asp?msgID=123296707&msisdn=85212345678&status=DELIVERED>

Note:

- i) Total number of DNs returned will be based on the number of SMS broadcasted. e.g.: if a group of broadcast consists of 10 MSISDNs, there will be 10 DNs returned. **If there are more than 1 DN returned for the same SMS (might happen for concatenated SMS), always consider the last DN received as the final DN.**

6.0 System Response Code

A response code will be returned for all HTTP / HTTPS GET or POST submissions to etracker Bulk SMS API gateway.

Below is a list of response codes and their corresponding descriptions:

Response Code	Remarks in CONSOLE	Description
200	Successful	Successful
400	Invalid Parameter	Missing parameter or invalid field type
401	Invalid Account	Invalid username, password or ServID

402	Invalid Account	Insufficient credit
403	Invalid Account	Invalid Client IP address (*only applicable for client that have IP checking)
404	Invalid Account	Invalid SenderID length
405	Invalid Parameter	Invalid Msg. Type (only applicable for message type 0, 5 & 6 for all countries. Malaysia's 6 series short code does not support Message type 6).
406	Invalid Parameter	Invalid MSISDN length
408	System Error	System Error. Please contact Tech Support.
409	System Error	System Error. Please contact Tech Support.
411	Blacklisted	Blacklisted MSISDN /Subscriber has Opted-Out from receiving bulk promotional messages.
412	Invalid Account	Account suspended / Terminated.
413	Invalid Broadcast Time	Broadcast is not allowed during this time.
414	Invalid Account	The account is inactive
415	Invalid Account	No active service
416	Invalid Account	The account has not been configured for this coverage.
417	System Error	System Error. Please contact Tech Support.
418	System Error	System Error. Please contact Tech Support.
419	System Error	System Error. Please contact Tech Support.
420	System Error	System Error. Please contact Tech Support.
421	System Error	System Error. Please contact Tech Support.
422	Invalid Account	Client has no active wallet
423	Invalid Account	The wallet has insufficient balance
424	Invalid Account	The reseller has not been configured for this coverage

425	System Error	System Error. Please contact Tech Support.
427	Invalid Broadcast Title	Broadcast title is invalid
500	System Error	Internal server error
DELIVERED	N/A	Message successfully delivered to the mobile handset.
UNDELIVERED	N/A	Message failed to be delivered to the mobile handset.
ACCEPTED	N/A	Message has been delivered to SMSC (Short Messaging Service Centre).
PROCESSING	N/A	Message is yet to be delivered to SMSC, and still on queue at MACROKIOSK gateway.

Note:

Response code 412 will be returned in the following circumstances:

Case 1: Termination of client's account

(1a) When a Master Account is terminated, all Sub Accounts will also be terminated.

Case 2: Suspension of client's account
(2a) Manual Suspension

This refers to Finance related issues such as late payment or payment defaults whereby Finance suspends the Master Account. When this happens, the Sub Account will also be suspended and they will not be able to perform any broadcasts.

(2b) Auto Suspension

This refers to technical related suspensions such as (2bi) 30 days of inactive login and (2bii) failed to reset password within 90 days.

(2bi) 30 days of Inactive Login

When a Master Account is suspended due to this case, the Sub Account will NOT be able to make any broadcasts.

(2bii) Failed to Reset Password within 90 days

When a Master Account is suspended due to this case, the Sub Account WILL be able to make broadcasts.

Exceptions:

- ✓ If a reseller's account is suspended due to invalid password, the sub account will not be affected.
- ✓ When a sub-account is terminated, all credits will be reverted back to the reseller's account.

Definitions:

Master Account	Refers to the account which is used by ONE authorized person only. There are no sub accounts attached to this person's account. <i>e.g. Minah has signed up for ONE account with Macro Kiosk. This account is solely for the purpose of using Bulk SMS for her own company.</i>
Reseller Account	Refers to one main account with many sub accounts tied up under this main account. <i>e.g. Anthony from Asix Sdn. Bhd. signed up for a reseller account with Macro Kiosk. He is able to sign up a few other companies under Asix Sdn. Bhd. to access the Bulk SMS.</i>

7.0 System Limitation

1. MO reporting is not available in etracker system for both longcodes and shortcodes. Client's application must store all the MO records received from the longcodes & shortcodes.

8.0 References for etracker Bulk SMS API

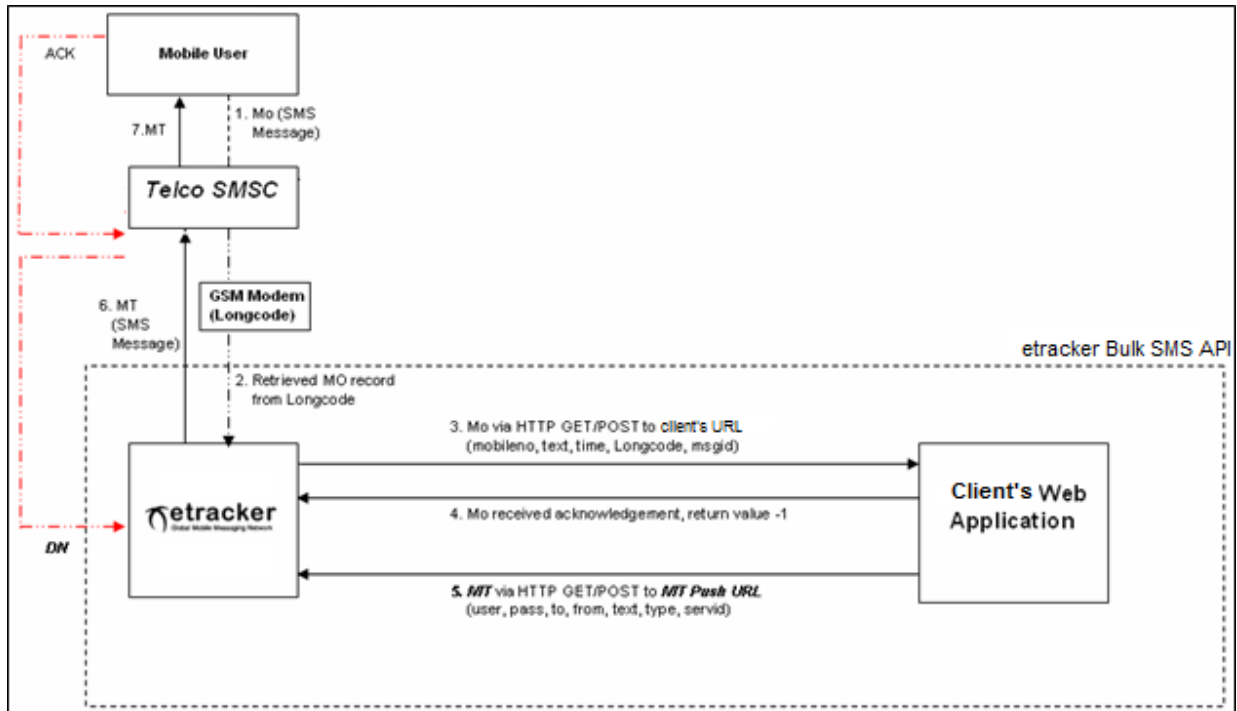
8.1 etracker Bulk SMS API Features

Feature	Description
Supports HTTP/HTTPS request submission	<ul style="list-style-type: none"> etracker Bulk SMS API supports http and https requests over the internet.
REST / SOAP	<ul style="list-style-type: none"> Supports REST / SOAP web service access protocols.
Supports one-way & two-way SMS service flow	<ul style="list-style-type: none"> <u>One way SMS Service Flow</u> MT Broadcast via Bulk SMS Gateway <u>Two Way SMS Service Flow</u> Receives MO via <ul style="list-style-type: none"> i) Long Code ii) Shortcode <p>Note:</p> <ul style="list-style-type: none"> ✓ Supports 2 way Bulk SMS using 6 series shortcode for Malaysia. This is only applicable for Maxis, Celcom, Digi & U Mobile subscribers. (Please refer to Known Issues). ✓ Clients are required to get approval from Celcom prior to using 6 series shortcode. (Please refer to Known Issues).
Supports Sender ID on MT broadcast	<ul style="list-style-type: none"> Mobile subscriber will be able to see the Sender ID on MT broadcast. (Telco dependent).
Supports MT format	<ul style="list-style-type: none"> Roman characters (ASCII) Unicode (UCS2) messages UDH header messages (8bit, EMS)
Supports concatenated SMS for long messages	<ul style="list-style-type: none"> Concatenation is Telco and hand phone dependent. Please refer to Known Issues.
Supports Delivery Notification	<ul style="list-style-type: none"> etracker Bulk SMS API supports delivery notifications to clients on the status of each transaction. Clients can enable 'real time DN' option for Bulk SMS API. This feature is applicable for all countries.

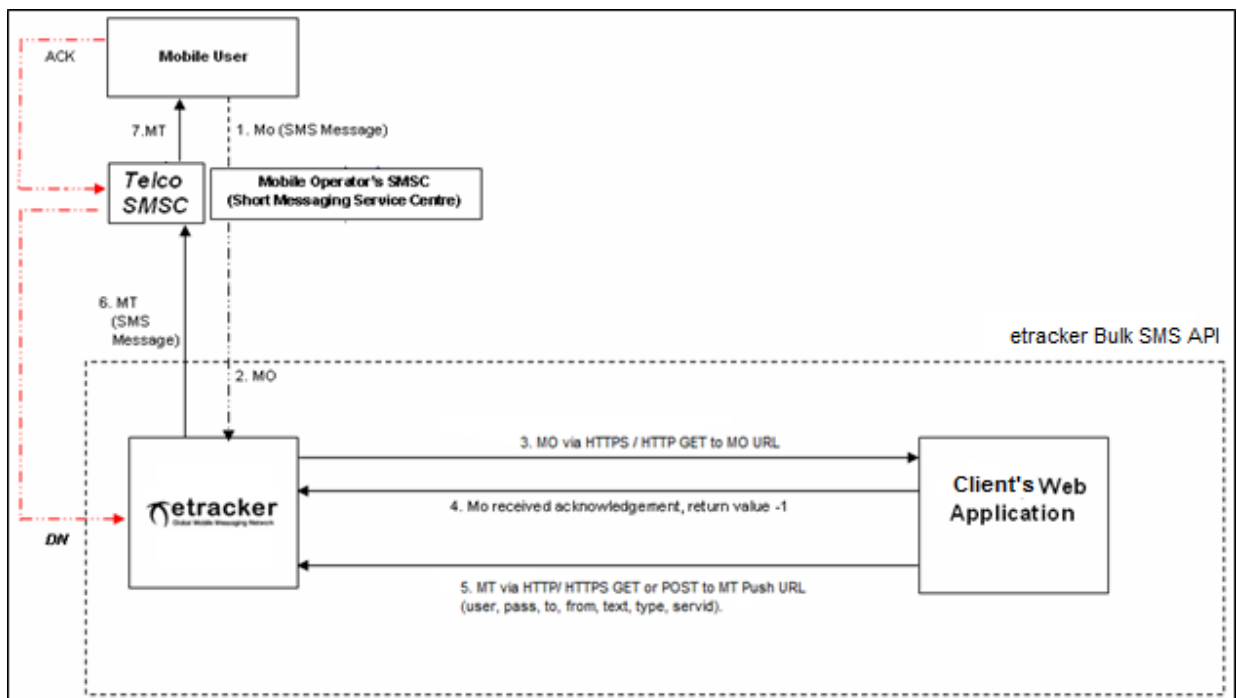
Note: The average MT throughput is 30 TPS having considered multiple operators' bandwidth.

8.2 etracker Bulk SMS API Process Flow

2 way etracker Bulk SMS API via Longcode



2 way etracker Bulk SMS API via Shortcode



Description for etracker Bulk SMS API 2-Way Process Flow via Longcode and Shortcode.

1. Mobile users send MO message to a Longcode /Shortcode. Please note that the longcode number varies from country to country.
2. Upon receiving the MO message, the GSM Modem/SMSC will forward the MO Message to MACROKIOSK's etracker Bulk SMS gateway for further processing.
3. MACROKIOSK's etracker Bulk SMS gateway will pass the MO message via HTTP / HTTPS POST or GET to the respective client's application. Please refer to [Receiving MO Message](#) for further details.
4. Upon receiving the MO request, the client's application MUST acknowledge the MO by responding with '-1'.
5. Thereafter, the client's application should reply with a MT message by calling MACROKIOSK's etracker Bulk SMS gateway via HTTP/ HTTPS POST or GET. Please refer to section [4.3](#), [4.4](#) & [4.5](#) for further information.
6. MACROKIOSK'S etracker Bulk SMS gateway will send the MT message to the Telco's SMSC.
7. Client may retrieve the DNs from MACROKIOSK's etracker Bulk SMS gateway via the reporting logs. Please refer to [Delivery Notification](#).

Note: Please refer to the *CONSOLE Product Paper* for the list of countries that supports longcode and shortcode via etracker Bulk SMS API gateway.

8.3 Known Issues & System Limitation

8.3.1 System Limitation

- (i) The Euro '€' symbol in the Message is converted to 'E' automatically. The conversion takes place because some Telcos do not support this conversion whereas some Telcos support them. Therefore MACROKIOSK standardizes everything to 'E'.

8.3.2 Known Issue

- (i) Please refer to the Bulk SMS Product Paper.

9.0 FAQ

1. How do clients integrate to etracker Bulk SMS API?

Use HTTP / HTTPS protocol (either POST or GET) to connect to the etracker bulk SMS API. The etracker bulk SMS API complies with the international standard used by the World Wide Web for communicating and exchanging of files.

3. A content was sent but it was not delivered to the mobile handset. Why?

Please ensure the following:

- You have sufficient SMS credit in your account.
- You have keyed in the correct username and password.
- The text messages are URL encoded.
- The ringtones and picture message are encoded to the correct hex values.
- The UCS2 content are encoded to the correct hex values.
- The content has not exceeded the allowable message limits.
- The field type value corresponds to the type of message that you wish to send

Example:

- To send normal text (ASCII) messages, set type value =0
- To send UCS2 messages, set type value =5

Note:

- An SMS supports up to 140 bytes per SMS
- The length of a normal text message (7bit) is 160 characters per SMS
- Ringtones, picture message (8bit) or Unicode message should not exceed 70 characters per SMS

4. Why messages are delayed or missing?

Such incidences only happen when there is a very huge volume of messages being sent out at any one particular time. This delay usually caused by the message queue over at the mobile operator's SMSC (Short Messaging Service Centre).

As for the missing messages, it is more often than not caused by the following scenarios:

- Mobile subscriber has insufficient credits (especially prepaid mobile subscribers)
- The particular mobile number is invalid or ceased
- The particular mobile number has been barred or terminated.

5. Does MACROKIOSK provide client support?

MACROKIOSK provides a 24x7 client support assistance. The number to call is +603 2163 2100.

Alternatively, client can email us at techsupport@macrokiosk.com.

6. Why was my MT rejected with error code 'xxxx'?

This is due to invalid Sender ID. Either

- i) You did not type in the Sender ID correctly OR
- ii) You did not register this Sender ID with AIS CDG L+ yet.

Please ensure you have registered the Sender ID and typed in the correct one.

