eSolutions

Bulk SMS / Messaging Gateway

API Specification

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1. Introduction

This document is an API specification for the e-Solutions Bulk SMS Gateway. The Gateway provides the following high-level capabilities:

i. Sending out SMS using the following end-point options: web services (JSON), HTTP or SMPP
ii. Reliable service that connects to all major MNOs directly; relied upon by the leading companies: banks, utilities, retailers, universities, etc.
iii. Support for Delivery Reports to be sent back to the Client (using callback URL)
iv. Sending messages with future delivery dates
v. Sending messages with expiry times
vi. High delivery success rates & high throughput; sending millions of messages per month.
vii. Support for Mobile-Originated (MO) messages to be sent to the Client (using callback URL) to support 2-way SMS.

2. Message Fields

Field	**Description**
originator	Identifies source of the message
destination	Destination mobile number e.g 263772000111
messageText	Contents of the message
messageId	Id given to the message by the sms gateway present in response only
messageReference	Reference given by the sender of the sms
status	Shows the status of the message e.g FAILED, PENDING or DELIVERED
messageDate	Transmission date of the message, format yyyyMMddHHmmss
charge	Message charge in cents
narrative	Any additional information
messageValidity	Time allowance from sendDateTime from which the message is supposed to be send, the presence of this field makes the message a candidate for scheduling, format HHmm Note: Leave this field **blank** for a message to be sent instantly, without being scheduled.
sendDateTime	Expiration time when the message is supposed to be sent, the presence of this field makes the message a candidate for scheduling, format HHmm

	Note: Leave this field **blank** for a message to be sent instantly, without being scheduled.

3. Send Single Message using JSON

Endpoint	/api/single
Method	POST

Sample Request	{
	"originator":"test",
	"destination":"263772000111",
	"messageText":"This is a test message",
	"messageReference":"R99577E",
	"messageDate": "20150301230156",
	"messageValidity": "03:00",
	"sendDateTime": "07:00"
	}
	NB: messageValidity and sendDateTime are used for scheduling and message expiring at message level.

Sample Response	{
	"originator":"test",
	"destination":"263772000111",
	"messageText":"This is a test message",
	"messageId":"23344455555",
	"messageReference":"R99577E",
	"status":"PENDING",
	"messageDate": "20150301230156"
	}

4. Status Single Message

Endpoint	/api/single/{messageReference}
Method	GET
Sample Request	-

Sample Response	{
	"messageId":"23344455555",
	"messageReference":"R99577E",
	"status":"PENDING",
	"messageDate": "20150301230156"
	"charge": 2,
	"narrative": "Message is pending"
	}

5. Message Batch Fields

Field	**Description**
batchNumber	Unique reference given by the sender of the batch. This reference must always be unique for each batch sent by the sender.
messages	An array of messages to be processed as a batch

Note: A batch can have a maximum of 20 000 messages

6. Send Bulk Message

Endpoint	/api/bulk
Method	POST

Sample Request	{
	"batchNumber": "B100000000012",
	"messages": [
	{
	"originator":"test",
	"destination":"263772000111",
	"messageText":"This is a test message",
	"messageReference":"R99578E"
	},
	{
	"originator":"test",
	"destination":"263772000111",
	"messageText":"This is a test message too",
	"messageReference":"R99577E"
	}
	]
	}

Sample Response	{
	"batchNumber":"B100000000012",
	"batchId":"B11174641300004",
	"status":"UPLOADING_IN_PROGRESS",
	“narrative":"UPLOADING_IN_PROGRESS"
	}

7. Status Bulk Message

Endpoint	/api/bulk/{batchNumber}
Method	GET
Sample Request	

Sample Response	{
	"batchNumber":"B100000000012",
	"batchId":"B11174641300004",
	"status":"SENT",
	"narrative":"SENT"
	}

8. Sending single message using HTTP URL

Endpoint	/api/single/{SenderID}/{RecipientPhoneNumber}/{TextMessage}
Method	GET
Sample Request	/api/single/ESOLUTIONS/0717600393/Hello customer

Sample Response	Http Response Code **200** with content:
	{
	"originator":"ESOLUTIONS",
	"destination":"263772000111",
	"messageText":"Hello customer",
	"messageId":"V11594270163555",
	"status":"PENDING",
	"messageDate":"20180305115141",
	"charge":0,
	"scheduled":false
	}

***Note**: Using this URL method has limitations because of HTTP URL limitations and is not recommended. In order to put characters like new-line (carriage return), encoding might be needed. For applications that send a wide variety of messages, it is recommended to use the RESTful web service calls that use JSON; or the SMPP endpoint.

9. Receive Delivery Report using Callback URL

Endpoint	To be provided by customer (the SMS gateway calls the Customer Callback URL)
Method	POST

NOTE	Endpoint should be a POST and Rest Compliant. Expected statuses are: ● SCHEDULED ● ENROUTE ● DELIVERED ● EXPIRED ● DELETED ● UNDELIVERABLE ● ACCEPTED ● UNKNOWN ● REJECTED ● SKIPPED

Sample Body	{
	"messageId": "V11594270163555",
	"messageReference":"R99577E",
	"dateSent": "20150301230156",
	"dateDelivered": "20150301230156",
	"subscriberId":"263772000111",
	"status":"DELIVRD",
	"narrative":"DELIVRD",
	}

10. Balance Enquiry

Endpoint	/api/balance/{username}
Method	GET
Sample Request	

Sample Response	{
	"username":"ESOLUTIONS",
	"balance":"92546"
	}

11. SMPP Support

The Gateway also provides connection via the SMPP protocol. The eSolutions SMSC complies with the Short Message Peer to Peer (SMPP) communication protocol v3.4. The full SMPP specification can be found on www.smpp.org

The client acts as the ESME and the eSolutions Bulk Messaging Gateway acts as the SMSC. Using SMPP, the ESME initiates an application layer connection with eSolutions SMSC over TCP/IP. In this case the ESME binds as a transceiver. Only one application can connect with a given system id at any given time. Once a connection is established the ESME can push messages throughout the lifetime of the connection.

The SMPP Connection details are as follows:

Parameter name	**Value**
Host	TBA
Port	TBA
System ID	TBA
Password	TBA

12. Mobile-Originated Messages

The Gateway also provides support for Mobile-Originated (MO) messages. This allows a client with a registered short code at MNOs to receive messages from those shortcodes. This would enable 2-way communication between the client and its customers:

- Mobile-Originated / M-O messages (also called MOM) : SMS from customer's mobile to Client
- Mobile-Terminated / M-T messages (also called MTM) : SMS from Client to customer's mobile

This section describes the support for M-O messages, and specifies the fields sent to the Client; and also a sample message.

Endpoint	To be provided by Client (the SMS gateway calls this Callback URL)
Method	POST
Fields	Mobile Number : the MSISDN of the customer Message ID Message Shortcode MessageDate (format: YYYYMMDDhhmmSS)

Sample Message	{
	"messageId": "V11594270160055",
	"shortCode": "909",
	"messageDate": "20200301230156",
	"message":"PAY XYZ 60 12345678901",
	"mobileNumber":"263776064077",
	}