HTTP 2 SMS (XML 2 SMS)

API

V3.3

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Contents

Version history

Revision number	Revision Date	Author	Changes
1.0	2010-02-08	Jonathan Hudson	Initial document release
1.1	2010-08-25	Jonathan Hudson	Updated Send Method
1.2	2011-11-18	Jonathan Hudson	Added HTTP Call-Backs
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Introduction

This document provides instructions on how to integrate AAM's SMS services into various solutions by using the HTTP 2 SMS API. Use the HTTP 2 SMS API for sending SMS messages, collecting delivery reports, and receiving incoming SMSs from mobiles.

All API communication should be done over HTTPS protocol to minimize security risks.

Account Types

There are two types of accounts:

- Administrator
- Linked user

The functionality is much the same, but slight differences are noted within each of the API method sections below.

Base URL

Submit all requests to the base URL. For big batches, HTTP POST is preferred, and HTTP GET for small.

Administrator Base URL: https://smsgwX.gsm.co.za/
Linked User Base URL: https://xml2sms.gsm.co.za/

Administrators can use either base URL.

The Administrator Base URL is dependent on which gateway your account resides on. This information is provided within the XML 2 SMS product when logged into your account.

Phone Number Format

It's suggested that you follow the E.164 number formatting standard:

- All numbers are standardized to a 15-digit maximum length
- Numbers are prefixed with a +, followed by country code, network code, and subscriber number

Numbers that aren't formatted this way may work. More information on this standard can be found here:
https://en.wikipedia.org/wiki/E.164

URL Encoding

Be sure to percent-encode reserved characters in your message text as described here:
https://en.wikipedia.org/wiki/Percent-encoding
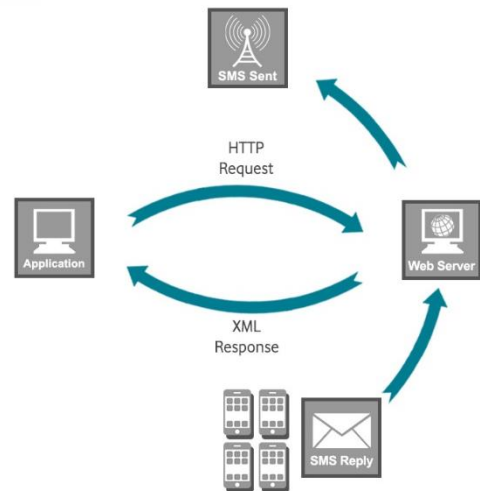
Supported Characters

To fit in with most providers, we use the GSM 03.38 character set. The visible characters in the extension table are supported, but note that an extra character is required for escaping. More information on the character set is available here: https://en.wikipedia.org/wiki/GSM_03.38

Duplicate Checking

Our system attempts to block duplicate SMSs from being sent within a 15-minute rolling window. Due to the complexities involved, it is not guaranteed, and understand that the onus is on you to ensure that no duplicates are submitted to the SMS gateway.

Authentication

Administrator Accounts

There are two different methods for authenticating with the SMS Gateway. On success, the response header HTTP status code will be `200 OK` with the response body in XML format. If an attempt to call the SMS gateway without authorization is performed, you will receive an error `401 Unauthorized`.

Basic Authentication

The header is constructed as follows:

- Username and password is combined into a string: `username:password`
- That string is then encoded to Base64 format
- Authorization method and space is put before the encoded string: `"Basic "`

:: Example

```
String to encode: 'username:password'

Encoded string: 'dXNlcm5hbWU6cGFzc3dvcmQ='

Authorization header: 'Basic dXNlcm5hbWU6cGFzc3dvcmQ='
```

Query String Parameters

:: Definition

https://smsgwX.gsm.co.za/xml/

:: Query String Parameters

username:	**string** Your account username
password:	**string** Your account password

Linked User Accounts

Authentication is done via query string parameters. If an attempt to call the SMS Gateway without authorization is made, the response header HTTP status code will be `200 OK` with a response body in XML format, and the error attribute having an error code "150".

:: Definition

https://xml2sms.gsm.co.za/

:: Query String Parameters

username:	**string** Your account username
password:	**string** Your account password

Send SMS

Single Message [GET]

This method allows you to send a single text message to one destination address.

:: Data Length Restrictions

The GET Method is limited to a URL length of 2048 characters.

:: Definition

https://xml2sms.gsm.co.za/send
https://smsgwX.gsm.co.za/xml/send

:: Query String Parameters

number:	**string** message destination address
message:	**string** Text of the message that will be sent

:: Examples

https://smsgwX.gsm.co.za/xml/send?number=+27721234567&message=Message+Text
https://xml2sms.gsm.co.za/send?number=+27721234567&message=Message+Text

:: Result Example

```xml
<?xml version="1.0"?>
<aatsms>
  <submitresult action="V" key="X" result="Y" number="Z" />
</aatsms>
```

:: SubmitResult attributes

action:	**string** The result of what the SMS gateway did with the message. Valid values: - enqueued - not enqueued
key:	**string** The reference assigned to the message in the sent logs. This can be used to track and monitor the status.
result:	**int** Value indicating success (1) or failure (0)
number:	**string** Destination Number
error:	**int** The error attribute is only present if result is 0. Refer to the error codes section for definitions.

Multiple Message [GET]

This method allows you to send multiple text messages to one or more destination addresses.

:: Data Length Restrictions

The GET Method is limited to a URL length of 2048 characters.

:: Definition

https://xml2sms.gsm.co.za/send
https://smsgwX.gsm.co.za/xml/send

:: Query String Parameters

number[i]:	**string**	
	message destination address	
message[i]:	**string**	
	Text of the message that will be sent	

Each Text Message will have its own number and message parameters, ending with an incrementing number.

:: Examples

https://smsgwX.gsm.co.za/xml/send?number1=+27721234567&message1=Message+Text&number2=27821234567&message2=Message+Text

https://xml2sms.gsm.co.za/send?number1=+27721234567&message1=Message+Text&number2=27821234567&message2=Message+Text

:: Result Example

```xml
<?xml version="1.0"?>
<aatsms>
  <submitresult action="V1" key="X1" result="Y1" number="Z1" />
  <submitresult action="V2" key="X2" result="Y2" number="Z2" />
</aatsms>
```

:: SubmitResult attributes

action:	**string**	
	The result of what the SMS gateway did with the message. Valid values:	
	- enqueued	
	- not enqueued	
key:	**string**	
	The reference assigned to the message in the sent logs. This can be used to track and monitor the status.	
result:	**int**	
	Value indicating success (1) or failure (0)	
number:	**string**	
	Destination Number	
error:	**int**	
	The error attribute is only present if result is 0. Refer to the error codes section for definitions.	

Multiple Message [POST]

This method allows you to send multiple text messages to one or more destination addresses. It's most suited for large batches, but you are able to send single SMSs as well.

Note: It is only available to Administrator accounts.

:: Data Length Restrictions

POST data is limited to 10MB.

:: Definition

https://smsgwX.gsm.co.za/xml/send

:: Payload Parameters

username:	**string** Your account username
password:	**string** Your account password
batchcols:	**string** Column format for the data held in the batch parameter, comma separated. Options: - number [required] - message [required] - userref [optional]
batch:	**string** Your batch data, formatted as above. Columns are comma separated, and messages line-break separated.

:: Example

URL

https://smsgwX.gsm.co.za/xml/send

Payload

username:	myUsername
password:	myPassword
batchcols:	number,message
batch:	27721234567%2CHi+there%0D%0A2782123456 7%2CHi+there%0D%0A27831234567%2C+Hi+there

:: Result Example

```xml
<?xml version="1.0"?>
<aatsms>
  <submitresult action="enqueued" key="11111111" result="1" number="27721234567" />
  <submitresult action="enqueued" key="11111112" result="1" number="27821234567" />
  <submitresult action="enqueued" key="11111113" result="1" number="27831234567" />
</aatsms>
```

EMS

The maximum length for an SMS is 160 characters. Exceeding that will result in the message being segmented and charged accordingly if the EMS parameter is used. If the message length is exceeded and the EMS parameter is not used, the message will be truncated to 160 characters.

While the networks do support up to 2000 characters, we recommend keeping it to 1000 or less. Every segment of an EMS will be billed as an SMS. For example, one EMS message that consists of two segments will be billed as two SMSs.

To enable EMS, you just have to append the EMS flag to the querystring in any of the sending methods.

:: Query String Parameters

ems:	**int** Set to 1 to enable, 0 to disable. Leaving out the ems parameter altogether is the same as setting it to 0.

:: Examples

```
https://smsgwX.gsm.co.za/xml/send?number=+27721234567&message=Long+message+text&ems=1
https://xml2sms.gsm.co.za/send?number=+27721234567&message=Long+message+text&ems=1
```

The result formats and attributes associated with them are the same as those in the Multiple Message [GET] section.

Error Codes

If the response from the gateway has a SubmitResult element with the action attribute set to "not queued", the error code attribute will be one of the following values:

Code	Definition
150	Invalid username or password.
151	Reading of send / receive logs disabled on Gateway account.
152	Sending SMS disabled on Gateway account.
153	Not enough credits to send SMS.
154	Attempted to submit an invalid number (format or banned).
155	Duplicate message submitted within the last 15 minutes.
156	There is no routing available for the destination number, which is usually due to an invalid number being submitted.
157	Gateway DNS not found.
158	No subscription to HTTP 2 SMS.
159	Invalid path.
160	Problem communicating with Gateway.
161	Invalid query string.

It's best to base logic on the error code accordingly. For example, resubmitting a message when the previous SubmitResult element action status was "not queued" due to not enough credits won't solve the problem.

Reporting

Get Delivery Reports [GET]

We support HTTP Call-backs for delivery report data, which forwards you the receipt information to a URL you have provided

HTTP Call-backs

To receive delivery reports via call-back, you need to have a URL on your web server setup that can receive GET requests from us. Call-backs are only available on Administrator accounts.

:: Setup

Enabling the call-back functionality is done through the HTTP 2 SMS product interface, in the Call-backs section.

:: Query String Parameters

All you need is a web page which accepts the following query string parameters:

FN:	**int** From number The cell number sent to
TN:	**int** To number The number that the message was sent from

SC:	**int**
	Success
	Two possible values:
	   - 1: success
	   - 0: failed

ST:	**string** SMSC Status
RF:	**int** Reference number for the SMS, which is the same as the key.
TS:	**datetime** Date and time the message was received

Get Incoming Messages [GET]

We support HTTP Call-backs for incoming message data, when we receive the MO message we will forward the information to a URL you have provided

HTTP Call-backs

To receive incoming messages via call-back, you need to have a URL on your web server setup that can receive GET requests from us. Call-backs are only available on Administrator accounts.

:: Setup

Enabling the call-back functionality is done through the HTTP 2 SMS product interface, in the Call-backs section.

:: Query String Parameters

All you need is a web page which accepts the following query string parameters:

FN:	**int**
	From number
	The number that sent the message
TN:	**int**
	To number
	The number that the message was sent to
MS:	**string**
	The message text
TS:	**datetime**
	Date and time the message was received

HTTP Call-back retry cycle

If your URL is unavailable for any reason, call-back attempts will be retried once per hour, up to 3 days.

SMSC Status Codes

Below are the most common status codes returned by the SMSC.
Any SMSC Status errors returned that are not mentioned in this list can be queried with Support for further investigation.

Status Code	Definition	Description	Action
0	Delivered	No Error	None
1	Enroute	SMS submitted to Operator	None
3	Expired	Mobile number off/unavailable and delivery retry expired on SMSC	Query with subscriber
4	Deleted by SMSC	Delivery to mobile device not allowed.	Subscriber to query Operator
5	Cannot Deliver	Destination device not available on network. Ported/Cancelled SIM	Query with subscriber
7	Cannot Deliver	Phone is off / GSM Network error / Phone out of range / SIM card full	Query with subscriber
8	Delivery Failure	Destination SIM Full or SMS receiving turned off on phone	Query with subscriber
11	Abandoned	Invalid Destination Address	Fix destination mobile number
25	Abandoned	Invalid Destination Address	Fix destination mobile number
69	submit_sm failure	Maximum Delivery Number Exceeded	Reduce traffic to mobile number/Submit SMS later
116	Unknown SCP Error	Suspended subscriber account	Query with subscriber
120	VAS Unavailable to Called Party	Barred subscriber/Black listed	Query with subscriber
123	Reserved Error	Unknown failure	Contact Support Desk
124	submit_sm failure	Maximum Delivery Number Exceeded	Reduce traffic to mobile number/Submit SMS later
134	Reserved Error	Unknown failure	Contact Support Desk
195	Missing OPT Param	Missing Optional Parameter	Contact Support Desk
196	Invalid OPT Param	Invalid Optional Parameter	Contact Support Desk
254	Delivery Failure	Failure on subscriber end	Query with subscriber
1036	Called Party Not Existent or Incorrect State	Cancelled SIM/Porting not updated	Query with subscriber
1037	Called Party Not Existent or Incorrect State	Cancelled SIM/Porting not updated	Query with subscriber
1038	VAS Unavailable to Called Party	Barred subscriber/Black listed	Query with subscriber
1039	Insufficient Balance of Calling Party	Suspended subscriber account	Query with subscriber
1042	submit_sm failure	Maximum Delivery Number Exceeded	Reduce traffic to mobile number/Submit SMS later
NULL	DLR Pending	Awaiting DLR status from SMSC	None

Receipts may take up to 48 hours to reflect accurately.

SOAP API

SMSs can be sent making SOAP requests via HTTPS to the API. You can either loop through your list of mobile numbers and make individual HTTPS requests to send SMSs to them, or you can send them in batches.

:: WSDL Location

https://soap.gsm.co.za/xml2sms.asmx?WSDL

:: Functionality

- Send Single SMS
- Send Single EMS
- Send SMS batches
- Send EMS batches

:: Authentication

Each request requires your username and password to be sent.

Commands

SendSMS / SendEMS

This operation allows you to send an SMS to a single destination. The server response is the same as what's described in the Send SMS [GET] section. Note that message text with a length greater than 160 characters will be truncated unless you use the SendEMS operation.

:: Parameters

username:	**string** Your account username
password:	**string** Your account password
number:	**int** Destination cell number
message:	**string** Message text

SendMultiSMS / SendMultiEMS

This operation allows you to send SMS to multiple destinations. The server response is the same as what's described in the Multiple Message [GET] section. Note that message text with a length greater than 160 characters will be truncated unless you use the SendMultiEMS command.

:: Parameters

batchcols:	**string** Column format for the data held in the batch parameter, comma separated. Options: - Number - Message - Userref [optional]

batch:	**string**
	Your batch data, formatted as above. Columns are comma separated, and messages line-break separated.
gwusername:	**string**
	Your account username
gwpassword:	**string**
	Your account password

An example for the batch parameter is available in the Multiple Message [POST] section.

Internal Links

AAT Mobile XML 2 SMS page - **https://mobile.aat.co.za/xml2sms.asp**

Support

We've tried to put all the information we could in this Guide, but we are sure you'll have some questions.

If you would like to chat to us, please call us on **031 100 0201** and we'll help you out as best we can.

Please also visit our website at **https://mobile.aat.co.za** where you may log a support query.