

Multimedia Messaging Service

API

V2.0



www.aat.co.za
care@aat.co.za
(+27) 031 100 0201

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Version history

Revision number	Revision Date	Author	Changes
1.0	2010-01-13	Kieron Thwaites	Initial document release
1.1	2010-01-14	Kieron Thwaites	Expanded information on methods exposed
1.2	2010-05-22	Kieron Thwaites	Added web service error code 208
1.3	2012-05-30	Jon Hudson	Updated Cell C
1.4	2013-02-11	Jon Hudson	Added note for Administrators.
1.5	2013-02-12	Matthew Smythe	Added to Reporting functions
1.6	2014-07-15	Jon Hudson	Added Telkom Mobile Support
1.7	2015-07-27	Jon Hudson	Added Call-back functionality & Zip method
1.8	2016-03-09	Jon Hudson	Added Ref
1.9	2016-03-15	Jon Hudson	Changed URL
2.0	2020-06-19	Jon Hudson	Updated Size Limit information

Introduction

MMS (Multimedia Messaging Service) is a standard method of sending multimedia content (such as images, sound and video) to and from mobile phones. It is an extension of SMS (Short Message Service) capability. It is commonly used to send photographs from mobile phones equipped with a camera, and is also used as a method of delivering news and entertainment content such as text pages and ringtones.

Scope

This document will provide the specifications of the interface to be used by external applications developed by third parties who wish to deliver MMS messages to subscribers.

This document targets the following groups:

- Application Designers
- Application Developers

Supported networks

As of the date of publication of this document, MMS can be sent to subscribers on the following mobile networks:

- Vodacom
- MTN
- Cell C
- Telkom

MMS Size Limits

Bulk MMS is limited to a total size of 600KB and you pay according to the total size you send per MMS.

Size Tiers
0KB - 40KB
41KB - 150KB
151KB - 300KB
301KB - 500KB
501KB – 600KB

Note: All files submitted will be larger in KB's (Size) then they would appear to be on your PC. This is due to encoding. An example would be a 100KB image file may be 130KB or more once sent. It is important to take note of this as the cost is higher according to the size you send.

Interface Overview and Process Flow

There are two interfaces available – a Web Service, and an e-mail interface. The process flows for either of these two interfaces are the same.

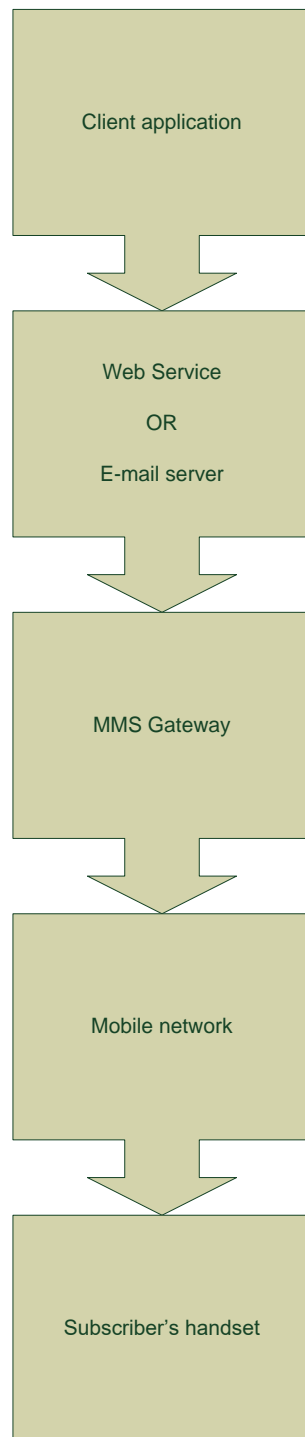


Figure 1: MMS Web service process flow

Functional differences between the interfaces

- It is impossible to obtain reports on sent MMS via e-mail; the web service contains methods that can be used to generate reports.

Web Service Interface

Location

The web service can be found at the following location:

<https://mmsapi.gsm.co.za/service.asmx>

The web service's WSDL can be obtained from the following locations:

<https://mmsapi.gsm.co.za/service.asmx?wsdl>

Methods exposed

The web service exposes the following methods:

- **SendStandardMMS()**
Sends an MMS with a combination of the following types of content: text, image and/or sound.
- **SendVideoMMS()**
Sends an MMS with a video content file.
- **SendZipMMS()**
This method allows for complete flexibility to send any supported MMS content by adding the files to a Zip archive.
- **GetResult()**
Gets a report on previously sent MMS, based on the batch ID.
- **GetResultByDate()**
Gets a report on previously sent MMS, based on a date range.
- **GetResultByNumber()**
Gets a report on previously sent MMS, based on a subscriber's MSISDN.

All methods return data to the caller as an XML document. The format of the XML is discussed later.

Definition of parameter types

For the purposes of this document, parameter types are defined as follows:

Table 1: Parameter types for Result reporting

Type	Definition
DateTime	An instant in time, typically expressed as a date and time of day. ¹
int	A 32-bit signed integer.
string	A string of Unicode characters.
string[]	A one-dimensional array of the string type.

¹ Parameters using this data type are convertible from the string type. For more information on which string formats are acceptable for these types of conversions, please refer to the following MSDN article: <http://msdn.microsoft.com/en-us/library/az4se3k1.aspx>

Parameters of the SendStandardMMS() method

The SendStandardMMS() method expects the following parameters:

Table 2: Parameter descriptions for SendStandardMMS() method

Name	Type	Description
username	string	The username of the client's account.
password	string	The password of the client's account.
numbers	string[]	An array containing mobile numbers of subscribers to send the MMS to.
subject	string	The subject of the MMS.
textData	string	The text to be included in the MMS body. If no text is to be included, this parameter must be set to an empty string.
imageType	string	The type of the image to be included in the MMS. This parameter must be set to one of the following values: bmp, gif, jpg, png. If the imageData parameter is an empty string, the value of this parameter is ignored.
imageData	string	The image data to be included in the MMS, as a base64 encoded string. If no image is to be included, this parameter must be set to an empty string.
soundType	string	The type of the sound to be included in the MMS. This parameter must be set to one of the following values: amr, mp3. If the soundData parameter is an empty string, the value of this parameter is ignored.
soundData	string	The sound data to be included in the MMS, as a base64 encoded string. If no sound is to be included, this parameter must be set to an empty string.

Parameters of the SendVideoMMS() method

The SendVideoMMS() method expects the following parameters:

Table 3: Parameter description for SendVideoMMS() method

Name	Type	Description
username	string	The username of the client's account.
password	string	The password of the client's account.
numbers	string[]	An array containing mobile numbers of subscribers to send the MMS to.
subject	string	The subject of the MMS.
textData	string	The text to be included in the MMS body. If no text is to be included, this parameter must be set to an empty string.
videoType	string	The type of the video to be included in the MMS. This parameter must be set to one of the following values: 3gpp, mp4. If the videoData parameter is an empty string, the value of this parameter is ignored.
videoData	string	The video data to be included in the MMS, as a base64 encoded string. If no video is to be included, this parameter must be set to an empty string.

Parameters of the SendZipMMS() method

The SendZipMMS() method expects the following parameters:

Table 4: Parameter description for SendZipMMS() method

Name	Type	Description
username	string	The username of the client's account.
password	string	The password of the client's account.
numbers	string[]	An array containing mobile numbers of subscribers to send the MMS to.
subject	string	The subject of the MMS
zipData	string	Bse64 encoded zip file

Parameters of the GetResult() method

The GetResult() method expects the following parameters:

Table 5: Parameter Descriptions for GetResult() method

Name	Type	Description
username	string	The username of the client's account.
password	string	The password of the client's account.
batchID	int	The ID of the previous MMS send.

Parameters of the GetResultByDate() method

The GetResultByDate() method expects the following parameters:

Table 4: Parameter description for GetResultBydate() method

Name	Type	Description
username	string	The username of the client's account.
password	string	The password of the client's account.
startDate	DateTime	The start date for report generation.
endDate	DateTime	The end date for report generation.

Parameters of the GetResultByNumber() method

The GetResultByDate() method expects the following parameters:

Table 7: Parameter description for GetResultByNumber() method

Name	Type	Description
username	string	The username of the client's account.
password	string	The password of the client's account.
number	string	The MSISDN of the subscriber to query.

XML returned by the *SendStandardMMS()* and *SendVideoMMS()* methods

```
<mmsSubmitResult id="{BATCH_ID}">
  <result>{RESULT_CODE}</result>
  <resultDescription>{RESULT_DESCRIPTION}</resultDescription>
  <successfulNumbers>
    <number>{MOBILE_NUMBER}</number>
    ...
  </successfulNumbers>
  <unsuccessfulNumbers>
    <number>{MOBILE_NUMBER}</number>
    ...
  </unsuccessfulNumbers>
</mmsSubmitResult>
```

Parameter definition

{BATCH ID}

The unique identifier of the MMS send. If the MMS send failed due to a fatal error, this value will be 0.

{RESULT_CODE}

A three digit code indicating what the outcome of the send was. A list of codes are discussed in Appendix A.

{RESULT_DESCRIPTION}

A text description describing the result code.

{MOBILE_NUMBER}

A number that was submitted. Numbers in the `<successfulNumbers>` section will always be in international format; numbers in the `<unsuccessfulNumbers>` section will be in the format in which they were submitted

XML returned by the GetResult(), GetResultByDate() and GetResultByNumber() methods

On success

```
<mmsResponse>
  <batch id="{BATCH_ID}" timestamp="{BATCH_TIMESTAMP}">
    <transaction id="{TRANSACTION_ID}" bind="{TRANSACTION_BIND}"
audit="{TRANSACTION_AUDIT_ID}">
      <status>{TRANSACTION_STATUS}</status>
      <timestamp>{TRANSACTION_TIMESTAMP}</timestamp>
      <recipients>
        <number>{MOBILE_NUMBER}</number>
        ...
      </recipients>
    </transaction>
    ...
  </batch>
  ...
</mmsResponse>
```

{BATCH_ID}

The unique identifier of the MMS send.

{BATCH_TIMESTAMP}

The time that the transaction was submitted, in the format `yyyy'-MM'-dd'T'HH':mm':ss.ffffffK`. For globalization reasons, the timestamp is in UTC; it is necessary to add two hours to the timestamp to obtain a time in South African Standard Time.

{TRANSACTION_ID}

The unique identifier of each transaction that was made with a MMSC with regards to the entire MMS send.

{TRANSACTION_BIND}

The bind that the transaction was submitted on. Will be either "MTN", "VODACOM", "CELLC" or "TELKOM".

{TRANSACTION_AUDIT_ID}

The unique identifier of each Linked User – this identifies which linked user initiated the MMS send.

{TRANSACTION_STATUS}

The four digit code returned by the mobile network indicating the status of the transaction. A list of codes are discussed in Appendix B.

{TRANSACTION_TIMESTAMP}

The time that the transaction was submitted, in the format `yyyy'-MM'-dd'T'HH':mm':ss.ffffffK`. For globalization reasons, the timestamp is in UTC; it is necessary to add two hours to the timestamp to obtain a time in South African Standard Time.

{MOBILE_NUMBER}

A number that was submitted in the transaction, in international format.

Failure

```
<mmsResponse>
  <error code="{ERROR_CODE}" description="{ERROR_DESCRIPTION}" />
</mmsResponse>
```

A list of error codes and descriptions are discussed in Appendix C.

Note: As an Administrator you would be able to view MMS's sent by all linked users.

HTTP Call-backs

We can provide call-backs based on three actions:

1. Submission (submitresponse)
2. Delivery (deliverreport)
3. Read (readreport)

Note: In order to receive read receipts the phone has to have them enabled and the network have to support this. There may also be a cost for sending these for the end user.

Table 8: Parameters returned

Value	Type	Description
ID	string	MMS ID
Code	string	Submission / Delivery / Read Response
Ref	string	Client Ref (MMS Clients only)

0 / 1 Indicate Delivery / Read Response.

For a full list of codes please see page: 16

Format of URL

`http://www.yoururl.co.za/%action%.aspx?id=%id%&msisdn=%msisdn%&code=%code%`

or

`http://www.yoururl.co.za/callback.aspx?action=%action%&id=%id%&msisdn=%msisdn%&code=%code%`

E-mail interface

General guidelines

The e-mail address to send e-mail to can be discovered via the Vodacom Messaging Solutions client interface, but generally takes the format of username@email2mms.qsm.co.za. For security reasons, it is recommended to configure the account so that only e-mails from certain e-mail addresses are accepted; e-mails not sent from the client-defined list will be automatically rejected.

The subject of the e-mail will be used as the subject as the MMS, with all content (text, images, sound, video) being read from files attached to the e-mail.² A list of allowed file types are discussed in Appendix D.

Once processed, a confirmation e-mail will be sent to an e-mail address configurable via the Messaging Solutions client interface. This e-mail will indicate if the MMS was successfully submitted to the mobile networks, or if an error was detected with the send. If processing of the e-mail was successful, a reference number that can be used for support purposes will be included; the reference will include the unique identifier of the send.

Sending multi-part MMS messages

Multi-part MMS message may be sent via e-mail with the inclusion of a file containing Synchronised Multimedia Integration Language (SMIL). This language is a W3C-recommended XML mark-up language that describes multimedia presentations. The file containing the mark-up must be attached to the e-mail with the .smil extension.

Version 2.1 of SMIL is used, and an example is shown below. Developers wanting to make use of SMIL are advised to read the SMIL specification.³

It is important to note that different handsets can react in different ways to the same SMIL and that SMIL errors can cause unpredictable results; it is therefore advised to perform thorough tests on the SMIL markup being used. The support department can be contacted for SMIL assistance.

² It is expected that e-mails sent to the system are in MIME multipart format. E-mails sent in other formats may not be parsed correctly, and may cause errors.

³ As of the latest revision of this document, the SMIL specification is located at: <http://www.w3.org/TR/2005/PR-SMIL2-20050927/>

SMIL example

```
<smil>
  <head>
    <layout>
      <root-layout width="100%" height="100%" top="0%" left="0%" />
      <region id="Image" left="0%" top="0%" width="100%" height="100%" fit="meet" />
      <region id="Text" left="0%" top="0%" width="100%" height="100%" fit="scroll" />
    </layout>
  </head>
  <body>
    <par dur="28000ms">
      
      <audio src="cid:Audio.amr" />
    </par>
    <par dur="10000ms">
      <text src="cid:text.txt" region="Text" />
    </par>
  </body>
</smil>
```

It is compulsory that filenames specified in the SMIL document match the filenames of the e-mail attachments. Mismatches may cause errors or unpredictable results.

External Links

MMS Wikipedia Link - http://en.wikipedia.org/wiki/Multimedia_Messaging_Service

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 mail us at care@aat.co.za.

Appendix A: List of web service MMS submission codes

Table 9: Webservice submission codes

Value	Description
100	The entire MMS send completed successfully.
101	Parts of the MMS send completed successfully; however, some numbers could not be sent to.
201	The combination of content is invalid.
202	An unrecognised content type was specified.
203	The total size of the MMS is too large to be sent.
204	No destination numbers were included.
205	No destination numbers were valid.
206	The maximum limit on destination numbers per MMS was exceeded.
207	No content was submitted.
208	The media data (image/sound/video) was not sent as a valid base64 encoded string.
301	The username or password specified is incorrect.
302	The account has been blocked by the system.
303	The account has reached its limit for MMS sends per calendar day.
304	The account has insufficient credits to send MMS.
305	The account is blocked from sending at the given time of day, but may send at another time.
306	The account and all linked accounts have reached their limit for MMS sends per calendar month.
901	The web service encountered an unrecoverable error.

Appendix B: Mobile network status codes

Table 10: Report generation codes

Value	Description
1000	Success
1100	SuccessPartial
2000	ClientError
2001	OperationRestricted
2002	AddressError
2003	AddressNotFound
2004	MultimediaContentRefused
2005	MessageIdNotFound
2006	LinkedidNotFound
2007	MessageFormatCorrupt
2008	ApplicationIdNotFound
2009	ReplyApplicationIdNotFound
2500	TransactionIDMissing
2501	IncorrectAttributeValueFormat
2502	RequiredAttributeNotFound
2503	RequiredElementNotFound
2504	UserDeviceProfileNotFound
2999	ThreadingError
3000	ServerError
3001	NotPossible
3002	MessageRejected
3003	MultipleAddressesNotSupported
3004	ApplicationAddressingNotSupported
4000	GeneralServiceError
4001	ImproperIdentification
4002	UnsupportedVersion
4003	UnsupportedOperation
4004	ValidationError
4005	ServiceError
4006	ServiceUnavailable
4007	ServiceDenied
4008	ApplicationDenied
4009	SendRateExceeded

Appendix C: List of report generation errors

Table 11: Report generation errors

Value	Description
ERR_INTERNAL	The web service encountered an unrecoverable error.
ERR_AUTH	The username or password is incorrect.
ERR_BATCH	The unique MMS identifier does not exist for the credentials supplied.

Appendix D: List of allowed e-mail file attachment types

Text

Table 12: Allowed Text formats

Extension	Description
txt	Text file

Images

Table 13: Allowed Image formats

Extension	Description
bmp	Windows OS/2 Bitmap Graphics
gif	Graphic Interchange Format
jpg	JPEG/JIFF image
png	Portable (Public) Network Graphic

Sound

Table 14: Allowed sound formats

Extension	Description
amr	Adaptive Multi-Rate ACELP Codec
mp3	MPEG Audio Stream, Layer 3

Video

Table 15: Allowed Video formats

Extension	Description
3gpp	Third Generation Partnership Project
mp4	MPEG-4 Part 14

Synchronised Multimedia Integration Language

Table 16: Additional allowed file formats

Extension	Description
Smil	SMIL text file