



**Advanced Services SMS Gateway
SMTP Interface
for Sending SMS**

Revision 2.1

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SMS Messaging – Advanced Services

Sending Messages to Mobiles

Contents

Contents	2
Description	2
Relevant Standards	2
Usage Modes	3
Normal Mode (basic)	3
SMPP SubmitSM Encapsulation Mode	3
Sending a Message to Multiple Mobiles	5
Delivery Confirmations	5
Long messages – concatenated SMS	5
Subject Lines	6
Two-Way Messaging	6
Closed User Groups	6
Quota Management	6
Appended Text	6
Security	6
Character Translation	6

Description

The SMTP interface to HSL's Advanced Services allows the use of Internet standards based e-mail infrastructure to send Short Message Service (SMS) messages to mobiles via HSL's messaging servers. Messages in both text and binary formats can be sent to mobiles as mobile terminated (MT) SMS.

Relevant Standards

RFC2821 – Simple Mail Transfer Protocol

RFC2822 – Standard for the Format of ARPA Internet Text Messages

RFC1894 – An Extensible Format for Delivery Status Notifications

RFC1123 – Requirements for Internet Hosts – Application and Support

GSM 03.38 – Digital cellular telecommunications system (Phase 2+); Alphabets and language-specific information

SMPP v3.3/3.4 – Short Message Peer to Peer (SMPP) Interface Specification

Usage Modes

Normal Mode (basic)

The destination mobile number is included in the SMTP envelope recipient value. For example, 447973100000@sms.haysystems.com.

The message content to be included in the MT (mobile terminated) SMS is normally contained in the subject line and/or body of the RFC822 message. Where content is included in both the subject line and body, the SMS message will comprise of the subject line content enclosed in brackets, '(' and ')', with the body content following. Where content is only contained in either the subject line or the body the SMS message will solely comprise of that content.

Subject line and body content encoding using base-64 are supported. Plain text MIME attachments are also supported.

For example, the following results in the message "(This is my message in the subject) This is my message" being sent to mobile number 447973100000:

SMTP Envelope

```
MAIL FROM: <sms@hsl-client.com>
RCPT TO: <447973100000@sms.haysystems.com>
```

SMTP Data / RFC822 Component

```
From: <sms@hsl-client.com>
To: <447973100000@sms.haysystems.com>
Subject: This is my message in the subject

This is my message
```

(Headers and body)

SMPP SubmitSM Encapsulation Mode

The fields of the MT SMS can be specified using fields in the RFC822 headers of the mail message. The content of the SMS is contained only in the headers of the e-mail can contain 8-bit data encoded as ASCII hexadecimal. The body of the e-mail is ignored and should be empty. The destination mobile number can be specified using email headers and a single destination e-mail address can be used (e.g. hsl-client@sms.haysystems.com). Where the SMTP envelope recipient address contains the mobile number the x-smpp-destination-addr field should not be used.

The fields of the MT SMS are contained in X-headers in the RFC822 message. The following X-header fields are defined:

x-smpp-destination-addr (international MSISDN)

x-smpp-short-message (ASCII hexadecimal encoding)

Sending a Message to Multiple Mobiles

When using the SMTP envelope to specify the destination of a message, it is possible to send to multiple mobiles by including multiple "RCPT TO" email address entries when communicating with HSL's SMTP receivers.

Email clients conforming to RFC2821, such as Microsoft Outlook, send emails in this way when the sender includes multiple email address entries in the "To" field of an email.

Delivery Confirmations

A delivery confirmation can be received for the outcome of a message sent to a mobile number. The confirmation is sent by email to the email address from which the message was sent.

A delivery confirmation can be requested by the inclusion of a delivery receipt/confirmation request. Such requests are made using the following headers in the email:

Disposition-Notification-To

Return-Receipt-To

For example, a message sent to a mobile from sms@hsl-client.com will result in a delivery confirmation being returned from HSL's systems by email to sms@hsl-client.com when one of the above headers is included. The delivery confirmation will be sent when the message reaches completion (i.e. is delivered or can not be delivered at all).

Deliver status notifications are in accordance with RFC1894.

Long messages – concatenated SMS

Due to the limitation that a single SMS message can contain only 160 7-bit characters or 70 UCS2/Unicode characters, it is necessary for a longer message to be conveyed using more than one SMS. One way of accomplishing this is by simply splitting the message in multiple SMS that will be received by a mobile and presented to the user as separate messages.

An alternative that is often more preferable to the mobile user is for a single long message to be received rather than multiple separate parts. Through the use of "concatenated SMS" a single long message can be presented to the mobile user as a result of multiple SMS sent to the user's mobile. This is made possible through the inclusion of segmentation and reassembly (SAR) information contained within each part of the message being sent to the user's mobile.

The method used for sending a long message via SMS is based on the configuration of your account on HSL's systems. The configuration selects if SAR information for long messages is automatically included in the SMS sent to mobile users by HSL's systems.

The default setting is to use concatenated SMS for long messages. To change this setting on your account please contact HSL Support.

Subject Lines

Individual Advanced Services SMTP accounts can be configured to ignore the body of the email and only use the subject line. This can prove useful when you wish to omit an automatically added disclaimer from messages sent to mobile telephones. The default is to use both the subject line and body for messages being sent to mobiles. To change this setting on your account please contact HSL Support.

Two-Way Messaging

This interface does not support two-way messaging. Please see the separate HSL Advanced Services **GMI** SMTP Interface.

Closed User Groups

A closed user group can be used to restrict the mobile numbers to which users of an account can sent messages. By default closed user groups are not enabled. To change this setting on your account please contact HSL Support.

Quota Management

Individual users can be assigned a quote to limit the number of SMS messages that they are permitted to send in a 24-hour period. Additionally, an account can have an account-wide default quota for users that would be used where individual users have not been given a specific quota. By default quotas are not enabled. To change this setting on your account please contact HSL Support.

Appended Text

An account can be configured to have every message sent through that account have a pre-defined text appended to the message contained in the email. Uses of this include standard disclaimers, company names and advertising. By default no text is appended to messages. To change this setting on your account please contact HSL Support.

Security

When communicating with HSL's servers the SMTP transmitter IP address, SMTP envelope originator and recipient values are compared with the allowed values for an account. This allows the SMTP receiver to authenticate the incoming communication. An incoming communication that does not pass authentication will not be permitted to progress with their communication.

A VPN connection between your SMTP server and HSL's SMTP servers can be set-up for users on appropriate service levels.

GSM security standards provide for the security of messages sent "over the air" between mobile base stations and mobile devices.

Character Translation

The RFC822 component communicated in the SMTP session must contain ASCII or ISO-8859-1 content and may be encoded in base-64 where necessary.

UCS2 content may be conveyed using SMPP SubmitSM Encapsulation Mode as described in this document.

Messages sent to mobiles are translated into either the GSM alphabet or UCS2 for transmission over mobile networks.

The GSM alphabet is contained in Appendix A.

Appendix A – GSM Alphabet (7-bit)

	0	16	32	48	64	80	96	112
0	@	□	SP	0	i	P	ı	p
1	£	_	!	1	A	Q	a	q
2	\$	□	"	2	B	R	b	r
3	¥	□	#	3	C	S	c	s
4	è	□	¤	4	D	T	d	t
5	é	□	%	5	E	U	e	u
6	ù	□	&	6	F	V	f	v
7	ì	□	'	7	G	W	g	w
8	ò	□	(8	H	X	h	x
9	Ç	□)	9	I	Y	i	y
10	LF	□	*	:	J	Z	j	z
11	Ø		+	;	K	Ä	k	ä
12	ø	Æ	,	<	L	Ö	l	ö
13	CR	æ	-	=	M	Ñ	m	ñ
14	Å	ß	.	>	N	Ü	n	ü
15	å	É	/	?	O	Ş	o	à

Note: In addition to the above the Euro (€) character is also supported.