



**Advanced Services SMS Gateway
Web Service SOAP/XML Interface
for
Sending SMS**

Revision 1.1

January 2009

CONTENTS

1. ACCESS TO HSL SMS GATEWAY SERVICE.....	3
1.1. OPENING AN ACCOUNT.....	3
1.2. WSDL.....	3
1.3. WEB SERVICE URL.....	3
2. EXAMPLE CODE.....	3
3. SENDING SMS.....	4
3.1. SECURITY AND AUTHENTICATION.....	4
3.2. RESPONSE FROM METHODS.....	4
3.3. METHODS.....	5
3.3.1. <i>sendText – Sending a simple text message.....</i>	<i>5</i>
3.3.2. <i>sendSmartMessage – Sending Nokia Smart Messaging SMS.....</i>	<i>6</i>
3.3.3. <i>sendRaw – Send raw SMS.....</i>	<i>8</i>
3.3.4. <i>sendDatagram – Sending a message.....</i>	<i>9</i>
4. PARAMETER DEFINITIONS.....	10
5. REVISION HISTORY.....	14

1. Access to HSL SMS Gateway Service

Hay Systems Ltd (HSL) provides access to its systems using the web service interface in this document to enable client applications to send SMS to mobile devices. In order to use the specification in this document it is necessary to have an account with HSL for access to this service.

For further information on HSL's services, other interface protocols, service levels and global coverage please see <http://www.hslsms.com/>.

1.1. Opening an account

To open an account for access to HSL's systems for delivery of messages to mobile devices please complete and return Web Service (SOAP/XML) application form.

The Web Service (SOAP/XML) application form can be found in the **Apply** section of the HSL SMS website at <http://www.hslsms.com/>.

1.2. WSDL

The URL of the WSDL of the web service is:

<http://ws0.haysystems.com/ws/services/ShortMessageService?wsdl>

1.3. Web Service URL

The URLs of the web service are:

<http://ws0.haysystems.com/ws/services/ShortMessageService>
<http://ws1.haysystems.com/ws/services/ShortMessageService>

The secure URLs of the web service are:

<https://ws0.haysystems.com/ws/services/ShortMessageService>
<https://ws1.haysystems.com/ws/services/ShortMessageService>

2. Example code

An application can quickly be created with the ability to send SMS using the HSL SMS gateway. The following is an extract of the minimum necessary user code in C#.NET to send a message where "SMS" has been used as the web reference.

```
SMS.ShortMessageService sms = new SMS.ShortMessageService();
SMS.Outcome[] result = sms.SendText( "acc80964", "5611e621",
    "447123456789", "Hello World", null );
if ( ( result.Length > 0 ) && ( result[ 0 ].success ) )
    outcome.Text = "Success";
else
    outcome.Text = "Fail";
```

Further example code may be found on the HSL website at <http://www.hslsms.com/> in the **Sample Code** sub-section of the **Developers** section.



3. Sending SMS

This document includes the methods that can be used to send text messages (Western character sets or Unicode), binary messages and Nokia Smart Messaging content via SMS to phones on networks supported through HSL's systems. These methods create single or multiple SMS messages depending on the parameters.

Following the set-up of your account the **clientId**, **password** and **secret** parameter values for use with the web service will be provided by HSL.

3.1. Security and authentication

The encryption of communication between the application making the request and HSL's systems is achieved through HTTP/S.

There are two methods available to the application of authenticating when using HTTP or HTTP/S: password or MD5. Either the password or the MD5 method **MUST** be used when submitting a HTTP request and are passed in the **token** parameter.

PASSWORD: The password is assigned when the account is provisioned by HSL. It should be noted that this password is passed "in the clear" (unencrypted) when using HTTP. If HTTP/S is used the password will be encrypted.

MD5: As an alternative to a password an MD5 digest can be included in the parameters submitted with the HTTP request. The MD5 "message digest" is a 16-byte output calculated from a **secret** known to both the application sending the HTTP request and HSL's server, and other parameters associated with the action. The actual parameters and how the input to the MD5 calculation should be performed are included in the sections below describing the supported actions. Note that the **secret** is **never** passed between the application and HSL "in the clear" – it is used as a seed in the MD5 calculation along with other parameters. The **secret** and parameters are concatenated together to provide the input to the MD5 calculation. The MD5 algorithm is included in various SDKs and programming languages (C/C++, C#, Delphi, Java, JavaScript, PHP, Perl, VB). The MD5 algorithm is defined in <http://www.ietf.org/rfc/rfc1321.txt>.

3.2. Response from methods

The response will indicate the success or failure of the call to the web service method and will be returned in an array (Outcome[] structure) of boolean-string pairs (Outcome structure). The Outcome structure contains the boolean **success** and an information field **info**.

The boolean **success** field indicates if the submission of the message to one of the destinations was successful or if it failed. When a successful submission has taken place the message ID(s) of the message(s) being sent to the mobile will be contained in the **info** parameter.

If the submission failed the **info** field may contain a numerical error value (in decimal) as defined in section 5.1.3 of the SMPP v3.4 specification (<http://www.smsforum.net>). If the **clientId** and **token** parameters were incorrect the **info** field will contain "AUTH" to indicate an authentication failure.



3.3. *Methods*

3.3.1. **sendText – Sending a simple text message**

METHOD

sendText

PURPOSE

Submit an SMS text message to the gateway using a simple request. A message that exceeds 160 characters will be split into multiple SMS and a UDH containing segmentation and reassembly information will be added (concatenated SMS).

PARAMETERS

Parameter	Description
destinationAddress	Mobile telephone number(s).
text	Short message text in ISO 8859-1. If useUCS2 set to true then message text in UCS2.

OPTIONAL PARAMETERS

Parameter	Description
validityPeriod	The expiration time (absolute or relative) of the message.
sourceAddress	Originating address or source address of short message. (Subject to account configuration.)
registeredDelivery	Request delivery receipt when message reaches completion.
scheduledDelivery	The time (absolute or relative) the message delivery is to be attempted.
useUCS2	Message text is encoded as UCS2 and not ISO 8859-1. Send message as UCS2.
token	MD5 input : <secret><text><destinationAddress>

3.3.2. sendSmartMessage – Sending Nokia Smart Messaging SMS

METHOD

sendSmartMessage

PURPOSE

Send Nokia Smart Messaging ringtones, operator logos, group graphics (CLI icons) and picture messages.

This action will produce a single or multiple SMS messages containing the content. The necessary segmentation and reassembly information will be included in the SMS messages that are produced for messages that require more than one SMS.

PARAMETERS

Parameter	Description
destinationAddress	Mobile telephone number(s).
contentType	rt – ringtone cl – group graphic pg – picture message ol – operator logo
content	contentType = rt <ringing-tone-programming-language> as in Nokia Smart Messaging Specification for Ringing Tones (hex string); or RTTTL/RTX encoding of ring tone (character string). contentType = cl , pg or ol <ota-bitmap> as in Nokia Smart Messaging Specification for Graphical Logos and Icons (hex string). Supports OTA, BMP and PBM formats.

OPTIONAL PARAMETERS

Parameter	Description
validityPeriod	The expiration time (absolute or relative) of the message.
sourceAddress	Originating address or source address of short message. (Subject to account configuration.)

registeredDelivery	Request delivery receipt when message reaches completion.
scheduledDelivery	The time (absolute or relative) the message delivery is to be attempted.
mnc	Network code for GSM network (mandatory for operator logos).
mcc	Country code for GSM network (mandatory for operator logos).
text	Text message for picture message (where contentType=pg).
token	<p>MD5 input :</p> <pre><secret><contentType><content><text> <mcc><mnc><destinationAddress></pre> <p>Absent parameters in request: If no <text> parameter is provided this is assumed to be NULL (i.e. empty). If no <mcc> parameter is provided this is assumed to be "000". If no <mnc> parameter is provided this is assumed to be "00".</p>

3.3.3. sendRaw – Send raw SMS

METHOD

sendRaw

PURPOSE

Submits an SMS to the gateway using a method that is functionally equivalent to the SMPP submit_sm PDU in SMPP v3.4.

PARAMETERS

Parameter	Description
destinationAddress	Mobile telephone number(s).
payload	Short message.

OPTIONAL PARAMETERS

Parameter	Description
validityPeriod	The expiration time (absolute or relative) of the message.
sourceAddress	Originating address or source address of short message. (Subject to account configuration.)
registeredDelivery	Request delivery receipt when message reaches completion.
scheduledDelivery	The time (absolute or relative) the message delivery is to be attempted.
esm	Message type, mode and/or UDHI
dcs	Indicates data coding scheme and/or message class.
pid	Protocol ID value.
token	MD5 input : <secret><payload><destinationAddress>

3.3.4. sendDatagram – Sending a message

METHOD

sendDatagram

PURPOSE

Send a message payload via SMS. A message that exceeds 160 characters or 140 octets will be split into multiple SMS and a UDH containing segmentation and reassembly information will be added (concatenated SMS). This action could be used to send a WAP push message or other similar content.

PARAMETERS

Parameter	Description
destinationAddress	Mobile telephone number(s).
payload	Message content.

OPTIONAL PARAMETERS

Parameter	Description
validityPeriod	The expiration time (absolute or relative) of the message.
sourceAddress	Originating address or source address of short message. (Subject to account configuration.)
registeredDelivery	Request delivery receipt when message reaches completion.
scheduledDelivery	The time (absolute or relative) the message delivery is to be attempted.
dcs	Indicates data coding scheme and/or message class.
pid	Protocol ID value.
sourcePort	Source port.
destinationPort	Destination port.
token	MD5 input : <secret><payload><destinationAddress>

4. Parameter Definitions

Parameter	Description	Type and Example
cli entI d	Client identifier. Identifier to uniquely identify your account.	String e.g. cli ent -abcd
token	Account password or MD5. MD5 of action fields and secret. Fields used as input to MD5 are listed in action descriptions in the next section. The <secret> parameter used as the input to the MD5 calculation is never exchanged in the open and is provided to the client by HSL when service is first provisioned.	String or hex string e.g. 1h8g234m5 or 85943d91966a91e613b5f936c62bd417
desti nati onAddress	Mobile telephone number(s) in international format starting with first digit of country code. More than one number can be specified by separating each number by a comma. Destination TON of "international" and NPI of "E.164" automatically selected.	Digits (comma separated for multiple destinations) e.g. 4479123456789 or 4479123456789, 4479123456789
sourceAddress	Originating address or source address of short message. (Support for this parameter is subject to account configuration.) Source TON and NPI will be automatically set.	String (alphanumeric address has max. 11 characters) e.g. BrandName
val i di tyPeri od	The expiration time (absolute or relative) of the message. Same as for SMPP validity_period parameter as <i>in section 7.1 of the SMPP v3.4 specification</i> . Alternatively, HTTP absolute date format supported.	String e.g. 0411241134000+



scheduleDelivery	<p>The time (absolute or relative) that message delivery is to be attempted.</p> <p>Same as for SMPP schedule_delivery_time parameter as in section 7.1 of the SMPP v3.4 specification. Alternatively, HTTP absolute date format supported.</p>	<p>String</p> <p>e.g. 0411241134000+</p>
text	<p>Short message text in ISO 8859-1. If useUCS2 set to true then message text in UCS2.</p>	<p>String (ISO 8859-1) or hex string (UCS2)</p> <p>e.g. Hello world!</p>
message	<p>Short message.</p>	<p>Hex string</p> <p>e.g.</p> <p>003000310032</p> <p>or</p> <p>024A3A6D35A5CDCD2985 8DADCDBDB80400B698E2 EC517624CB14658936C5 96614616614616814616 828DB12658B2CC28C2CC 28C2CC28C2D051B624BA 146E0B2D029024C25428 C2C4497617217628BB12 658A32C49B62CB30A30B 30A30B40A30B4146D893 2C596614616614616814 616828DB125D0A370596 814812812A14616224BB 0000</p>
content	<p>type = rt</p> <p><ringing-tone-programming-language> as in Nokia Smart Messaging Specification for Ringing Tones (hex string); or RTTTL/RTX encoding of ring tone (character string)</p> <p>type = cl</p> <p><ota-bitmap> as in Nokia Smart Messaging Specification for Graphical Logos and Icons (hex string). Supports OTA, BMP and PBM formats.</p> <p>type = pg</p> <p><ota-bitmap> as in Nokia Smart Messaging Specification for Graphical Logos and Icons (hex</p>	<p>Hex string or character string</p> <p>e.g.</p> <p>024A3A6D35A5CDCD2985 8DADCDBDB80400B698E2 EC517624CB14658936C5 96614616614616814616 828DB12658B2CC28C2CC 28C2CC28C2D051B624BA 146E0B2D029024C25428 C2C4497617217628BB12 658A32C49B62CB30A30B 30A30B40A30B4146D893 2C596614616614616814 616828DB125D0A370596 814812812A14616224BB 0000</p> <p>or</p> <p>MyTune: d=4, o=5, b=112 :</p>

	<p>string). Supports OTA, BMP and PBM formats.</p> <p>type = ol</p> <p><ota-bitmap> as in Nokia Smart Messaging Specification for Graphical Logos and Icons (hex string). Supports OTA, BMP and PBM formats.</p>	<p>b. 6, g. 6, 16f#6, 16g6, 16f#6, 8d. 6, 8e6, p, 16e6, 16f#6, 16g6, 8f#. 6, 8g6, 8a6, b. 6, g. 6, 16f#6, 16g6, 16f#6, 8d. 6, 8e6, p, 16c6, 16b, 16a, 16b</p>
mnc	Network code for GSM network.	<p>2 x digits</p> <p>e.g. 10</p>
mcc	Country code for GSM network.	<p>3 x digits</p> <p>e.g. 244</p>
contentType	<p>rt – ringtone</p> <p>cl – group graphic</p> <p>pg – picture message</p> <p>ol – operator logo</p>	<p>2 x character</p> <p>e.g. rt</p>
esm	<p>Message type, mode and/or UDHI</p> <p>Same as for SMPP esm_class parameter.</p>	<p>Integer (decimal)</p> <p>e.g. 0</p>
dcs	<p>Indicates data coding scheme and/or message class.</p> <p>Same as for SMPP data_coding parameter in SMPP v3.4.</p>	<p>Integer (decimal)</p> <p>e.g. 0</p>
pid	<p>Protocol ID value.</p> <p>Same as for SMPP protocol_id parameter as for SMPP v3.4 / GSM.</p>	<p>Integer (decimal)</p> <p>e.g. 0</p>
registeredDelivery	<p>Request delivery receipt when message reaches completion.</p> <p>false – no delivery receipt</p> <p>true – request delivery receipt</p> <p>Delivery receipts will be returned to the same URL as used when receiving inbound SMS. The format of the receipt is as in <i>Appendix B of the SMPP v3.4 specification</i>. Note the “id” field in the delivery receipt will contain the whole message identifier originally returned at the time of message submission.</p>	<p>Boolean</p> <p>e.g. true</p>

	A message that has been delivered will contain the text "stat:DELIVRD" within the received message. See Receiving SMS section for further information.	
sourcePort	Source port for datagram. See GSM 03.40.	Integer (decimal) e.g. 1024
destinationPort	Destination port for datagram. See GSM 03.40.	Integer (decimal) e.g. 1024
useUCS	Indicates if message is in ISO 8859-1 or UCS2 encoding	Boolean e.g. true

Note: The SMPP (Short Message Peer to Peer) protocol specifications are freely available for download at <http://www.smsforum.net/>.

5. Revision History

Date	Revision	Notes
March 2005	1.0	Initial release.
January 2009	1.1	An error in the description of the registeredDelivery parameter was corrected.