



SMS Gateway Subscriptions

**API Guide
v2.3.5**



SUBSCRIPTIONSAPI v2.3.5a

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1 Introduction

This guide is a supplement to the *SMS Gateway API Reference*. It covers the various technical requirements for implementing subscription programs through SMS Gateway and describes how to send subscription messages via SMPP and the `sendMessage()` Web service method.

NOTE

This guide covers subscriptions only. For complete information about sending and receiving messages through SMS Gateway, refer to the *SMS Gateway API Reference*.

Subscription Program Requirements

Product Codes

When sending subscription messages to SMS Gateway, you must include the subscription product code provided to you by VeriSign. (This applies to both standard and premium-rated messages.) Product codes identify the content provider, short code, item name, pricing level, and purchase type (Subscription or Individual). For example:

```
ACMEX_12345_RINGHIP_999_S (Subscription)
ACMEX_12345_RINGHIP_199_I (Individual item)
```

If your program offers multiple subscription products under the same short code and price point (different ringtone genres, for example), each product must be identified as a separate subscription with its own unique product code. For example:

```
ACMEX_12345_RINGHIP_999_S
ACMEX_12345_RINGRCK_999_S
ACMEX_12345_RINGJAZ_999_S
ACMEX_12345_WALLPAP_999_S
ACMEX_12345_TRIVGAM_999_S
```

For more information or to request additional product codes, contact your VeriSign account manager.

Subscription Actions

All messages sent using a subscription product code must include a subscription action parameter to inform VeriSign of subscription state changes (opt-ins, cancellations, renewals, etc.). If the subscription action is missing or invalid, the message will be rejected. (Note that messages with a single-item product code do not require a subscription action.)

SMS Gateway accepts the following subscription actions:

Subscription Action	Description
SUBSCRIBE	Opt the subscriber into the program and start the billing process.



RENEW	Manually renew the subscription for another billing period. See Subscription Renewals below for more information about the renewal process.
CANCEL	Terminate the subscription immediately. The subscriber won't receive any more content but no refund is sent.
LAPSE	Do not renew the subscription. The subscriber continues to receive content until the end of the current billing period, at which point the subscription is terminated.
REVIVE	Re-activate a subscription which you previously lapsed but which has not yet reached the end of its billing period and been terminated.
REFUND (Cingular only)	Terminate the subscription immediately and issue a refund to the subscriber's bill equal to the amount of one billing period.

Subscription Renewals

Subscriptions are billed on a monthly cycle, with each new billing period starting on the same day of the month as the original subscription opt-in. For example, a subscription started on June 8th begins a new billing period on July 8th, August 8th, September 8th, and so on. If the subscription day isn't available due to subsequent months being shorter than the first, the billing period ends a day earlier. For example, a subscription started on October 31 begins a new billing period on November 30, December 31, January 31, and February 28 (or February 29 in a leap year).

For billing to continue, the subscription must be renewed at the start of each billing period. There are two ways you can arrange to renew a subscription: automatically and manually.

Automatic Renewals (Cingular only)

If you so choose, VeriSign can set up the subscription to automatically renew at the start of each billing period. SMS Gateway will send a reminder to the subscriber and then notify you when billing is successful.

Manual Renewals

If you want to handle subscription renewals manually, it's your responsibility to send an appropriate reminder to the subscriber and to submit a RENEW action to SMS Gateway at the start of each subscription billing period. To prevent double billing, the RENEW action will not be accepted any earlier than the subscription anniversary date - that is, the same day of the month as the original subscription opt-in. SMS Gateway will notify you when billing is successful.

NOTE

RENEW actions must be submitted after 12:00 p.m. EST on the subscription anniversary date.

Subscription Notifications

Subscription notifications must be enabled for all subscription programs. When you submit a subscription message to SMS Gateway, you'll receive a subscription notification in return, indicating the success or failure of your request. You'll also receive notifications informing you of LAPSE, REVIVE, CANCEL, and REFUND events initiated by the carrier so you can take appropriate action and update your database accordingly.



SMS Gateway can deliver subscription notifications via SMPP or XML-over-HTTP POST to a URL hosted on your system. See the *iQ Navigator User Guide* for configuration details.

Premium Billing Notifications

Billing notifications indicate the outcome of the billing transaction between SMS Gateway and the carrier. In order to stay in sync with the carrier's database, content providers must request and receive billing notifications for all premium (SUBSCRIBE and RENEW) subscription messages.

SMS Gateway can deliver billing notifications via SMPP or HTTP POST to a URL hosted on your system. See the *iQ Navigator User Guide* for configuration details.

For more information about SMS Gateway billing notifications, see the *SMS Gateway API Reference*.





2 Sending Subscription Messages via SMPP

To send subscription messages to SMS Gateway via SMPP, include the VeriSign-specific `product_code` and `subscription_action` parameters in your `submit_sm` PDU as shown in the following table. Use the standard `registered_delivery` parameter to request billing notifications for premium messages. The rest of the PDU is the same as a standard MT message. For details, see the *SMS Gateway SMPP Interface* chapter in the *SMS Gateway API Reference*.

submit_sm	
Parameter	Value
product_code (0x1520)	A product code provisioned specifically for subscription billing. For example: ACMEX_12345_RINGHIP_999_S For more information, see Product Codes in Chapter 1: Introduction .
subscription_action (0x1581)	The subscription action you want to invoke: SUBSCRIBE RENEW CANCEL LAPSE REVIVE REFUND For descriptions of each action, see Subscription Actions in Chapter 1: Introduction .
registered_delivery (0x01)	Use the <code>registered_delivery</code> parameter to request an SMPP billing notification from SMS Gateway (see Premium Billing Notifications in Chapter 1: Introduction). Set to 0x01 for premium subscription messages (SUBSCRIBE and RENEW); Otherwise, set to 0x00.

Example

This sample shows the complete `submit_sm` for a subscription opt-in message.

```
00 00 00 78 00 00 00 04 00 00 00 00 00 00 06 .....
00 00 00 31 32 33 34 35 00 00 00 35 30 30 38 38 ...12345...50088
38 35 35 35 35 00 00 00 00 00 00 01 00 00 00 1e 85555.....
54 68 69 73 20 69 73 20 61 20 53 75 62 73 63 72 This is a Subscr
69 70 74 69 6f 6e 20 4d 65 73 73 61 67 65 15 20 iption Message.
00 19 41 43 4d 45 58 5f 31 32 33 34 35 5f 52 49 ..ACMEX_12345_RI
4e 47 48 49 50 5f 31 39 39 5f 53 15 81 00 09 53 NGHIP_199_S....S
55 42 53 43 52 49 42 45                               UBSCRIBE
```

The relevant parts of the message decode as follows:



Command Length: 120
Command ID: 4 (submit_sm)
Source address: 12345
Destination address: 5008885555
Registered delivery: 0x01
Message length: 30
Short message: This is a Subscription Message
Optional TLV 0x1520 (product_code): ACMEX_12345_RINGHIP_199_S
Optional TLV 0x1581 (subscription_action): SUBSCRIBE

Receiving Subscription Notifications

For the SMPP interface, subscription notifications (see [Subscription Notifications](#) in Chapter 1: [Introduction](#)) are delivered from SMS Gateway as an MO message via the standard *deliver_sm* PDU. (See the *SMS Gateway API Reference* for details.)

The address parameters in the *deliver_sm* indicate the subscriber MDN and the service code:

deliver_sm	
Parameter	Value
source_addr	The mobile number of the customer to whom the subscription event applied.
destination_addr	The service code used for the subscription message.

The *deliver_sm* PDU also includes the two VeriSign-specific optional parameters *product_code* and *subscription_action*:

deliver_sm	
Parameter	Value
product_code (0x1520)	The subscription product code.
subscription_action (0x1581)	The type of subscription action which triggered this notification: SUBSCRIBE CANCEL RENEW LAPSE REVIVE REFUND For descriptions of each action, see Subscription Actions in Chapter 1: Introduction.

The notification itself is contained in the *short_message* parameter and consists of six VeriSign-defined fields, prefixed with the string "subs" to indicate that this is a subscription notification. For example:



subs pc:ACMEX_12345_RINGHIP_999_S act:SUBSCRIBE src:C cid:1 rcode:0 rmsg:Subscription created

Field	Value
pc	Same as the product_code (0x1520) parameter.
act	Same as the subscription_action (0x1581) parameter.
src	The origin of the subscription action. Possible values are as follows: v - Content provider (VASP) c - Carrier M - VeriSign (m-Qube)
cid	The carrier ID. For a complete list of carrier IDs, see <i>Appendix A: Carrier Information</i> in the <i>SMS Gateway API Reference</i> .
rcode	Returns 0 if the subscription action was successful, or an error code indicating why the action failed. See Appendix A: Subscription Error Codes for more information.
rmsg	A text description of the return code. If the subscription action was successful, the rmsg field returns one of the following messages: Subscription created Renewal successful Subscription is lapsing Subscription is revived Subscription is cancelled Subscription is refunded Otherwise, the rmsg field returns a brief description of the error. See Appendix A: Subscription Error Codes for more information.

Example

This sample shows the complete *deliver_sm* for a subscription notification.

```
00 00 00 d6 00 00 00 05 00 00 00 00 00 00 0c .....
00 00 00 35 30 30 38 38 38 35 35 35 35 00 00 00 ...5008885555...
31 32 33 34 35 00 00 00 00 00 00 00 00 00 53 73 12345.....s
75 62 73 20 70 63 3a 4a 41 4d 49 45 54 53 49 4e ubs pc:ACMEX_123
34 35 5f 52 49 4e 47 48 49 50 5f 39 39 39 5f 53 45_RINGHIP_999_S
20 61 63 74 3a 53 55 42 53 43 52 49 42 45 20 73 act:SUBSCRIBE s
72 63 3a 43 20 63 69 64 3a 31 20 72 63 6f 64 65 rc:C cid:1 rcode
3a 30 20 72 6d 73 67 3a 53 75 62 73 63 72 69 70 :0 rmsg:Subscrip
74 69 6f 6e 20 63 72 65 61 74 65 64 15 20 00 19 tion created...
41 43 4d 45 58 5f 31 32 33 34 35 5f 52 49 4e 47 ACMEX_12345_RING
48 49 50 5f 39 39 39 5f 53 15 81 00 09 53 55 42 HIP_999_S....SUB
53 43 52 49 42 45 15 50 00 1c 30 6a 36 74 39 75 SCRIBE....0j6t9u
30 30 32 64 63 64 76 74 30 37 35 61 34 35 39 32 002dcdvt075a4592
63 69 35 64 76 67 ci5dvg
```

The relevant parts of the message decode as follows:



Command length: 214
Command ID: 5 (deliver_sm)
Source address: 5008885555
Destination address: 12345
Optional TLV 0x1520 (product_code): ACMEX_12345_RINGHIP_999_S
Optional TLV 0x1581 (subscription_action): SUBSCRIBE
Message:
subs pc:ACMEX_12345_RINGHIP_999_S act:SUBSCRIBE src:C cid:1 rcode:0 rmsg:Subscription
created

Receiving Subscription Notifications via HTTP

You can also receive subscription notifications via XML-over-HTTP POST. This is the same notification mechanism used by the `sendMessage()` Web service interface. For details, see the [Receiving Subscription Notifications](#) section in Chapter 3: [Sending Subscription Messages via sendMessage\(\)](#).

Receiving Billing Notifications

If you set the `registered_delivery` parameter in your `submit_sm` PDU, SMS Gateway will return a billing notification via a standard `deliver_sm` PDU. For details, see the *SMS Gateway API Reference*.

Alternatively, you can receive billing notifications via HTTP POST, which is the notification mechanism used by the `sendMessage()` Web service interface. See [Receiving Billing Notifications](#) in Chapter 3: [Sending Subscription Messages via sendMessage\(\)](#) for details.

3 Sending Subscription Messages via sendMessage()

To send subscription messages to SMS Gateway via the `sendMessage()` Web service method, include `SubscriptionAction` and `dialog.psms_pricecode` as extra parameters in your SOAP or HTTP call. The rest of the parameters are the same as for a standard MT message. For details, see the *SMS Gateway Web Service Interface* chapter in the *SMS Gateway API Reference*.

extraParam	Value
dialog.psms_pricecode	A product code provisioned specifically for subscription billing. For example: ACMEX_12345_RINGHIP_999_S For more information, see Product Codes in Chapter 1: Introduction.
SubscriptionAction	The subscription action you want to invoke: SUBSCRIBE RENEW CANCEL LAPSE REVIVE REFUND For descriptions of each action, see Subscription Actions in Chapter 1: Introduction.

SOAP Example

```
<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope
xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <soapenv:Body>
    <sendMessage>
      <interpret>true</interpret>
      <destination>tel:5008885555</destination>
      <serviceCode>12345</serviceCode>
      <message>This is a Subscription Message</message>
      <extraParams>
        <item>
          <key>dialog.op</key>
          <value>psms_push</value>
        </item>
        <item>
          <key>dialog.psms_pricecode</key>
```



```
<value>ACMEX_12345_RINGHIP_999_S</value>
</item>
<item>
  <key>SubscriptionAction</key>
  <value>SUBSCRIBE</value>
</item>
</extraParams>
</sendMessage>
</soapenv:Body>
</soapenv:Envelope>
```

HTTP POST Example

interpret=true&destination=tel%3A5008885555&serviceCode=12345&message=This+is+a+Subscription+Message&dialog.op=psms_push&dialog.psms_priceCode=ACMEX_12345_RINGHIP_999_S&SubscriptionAction=SUBSCRIBE

Receiving Subscription Notifications

For the `sendMessage()` interface, subscription notifications (see [Subscription Notifications](#) in Chapter 1: [Introduction](#)) are delivered via XML-over-HTTP POST to the URL you provided in iQ Navigator. You must have a server program running at the specified URL to accept the posted data.

NOTE

If a receiving program isn't present, or if the POST fails for any reason, SMS Gateway will retry delivery three times over a period of 15 minutes. After three failed delivery attempts, the notifications are placed in a dead letter queue. Upon request, VeriSign will attempt to resend the queued notifications later.

Subscription notifications contain the following elements:

Element	Description
<subscriptionEvent>	The subscription event which triggered this notification. The action= value indicates one of the following: SUBSCRIBE CANCEL RENEW LAPSE REVIVE REFUND For descriptions of each action, see Subscription Actions in Chapter 1: Introduction .
<source>	The origin of the subscription action. Possible values are as follows: CONTENT_PROVIDER CARRIER M_QUBE



<subscriptionId>	A 28-character ID that identifies the subscription. (This attribute is deprecated; the combination of the subscriber mobile number and the product code is used to uniquely identify a subscription transaction.)
<msisdn>	The phone number of the subscriber.
<productCode>	The subscription product code.
<shortCode>	The short code used for the message.
<returnCode>	Contains 0 if the subscription action was successful, or an error code indicating why the action failed. See Appendix A: Subscription Error Codes for more information.
<reason>	A text description of the return code. If the subscription action was successful, the <reason> element contains one of the following messages: - Subscription created - Renewal successful - Subscription is lapsing - Subscription is revived - Subscription is cancelled - Subscription is refunded Otherwise, the <reason> element contains a brief description of the error. See Appendix A: Subscription Error Codes for more information.

Within the body of the POST, the notification is transmitted in the following format:

```
subNotification=xml_data
```

where xml_data is a URI-encoded string. Decoded, an example notification reads as follows:

```
<subscriptionEvent action="RENEW">
  <source>CONTENT_PROVIDER</source>
  <subscriptionId>1n453ok0k6t9u0091k45907psn6v</subscriptionId>
  <msisdn>6178526985</msisdn>
  <productCode>HipHop</productCode>
  <shortCode>10801</shortCode>
  <returnCode>0</returnCode>
  <reason>Renewal successful</reason>
</subscriptionEvent>
```

Receiving Billing Notifications

For the `sendMessage()` interface, billing notifications (see [Premium Billing Notifications](#) in Chapter 1: [Introduction](#)) are delivered via HTTP POST. For example:

```
destination=tel:6175551212&serviceCode=3547&authCode=0&authMessage=&carrierName=NEXTEL
&messageID=1m7dn6h02039u00dt444b1r61db0&outputCode=PBS&transactionID=1m7dn6h02039u00dt
444b1r61db0
```

You must specify the billing notification URL in iQ Navigator and have a server program running to accept the posted data.

NOTE

If a receiving program isn't present, or if the POST fails for any reason, SMS



Gateway will retry delivery three times over a period of 15 minutes. After three failed delivery attempts, the notifications are placed in a dead letter queue. Upon request, VeriSign will attempt to resend the queued notifications later.

For more information about SMS Gateway billing notifications, see the *SMS Gateway API Reference*.



Appendix A: Subscription Error Codes

The following table lists the subscription-related error codes returned by the SMS Gateway. For the complete list of SMS Gateway error codes, see the *SMS Gateway API Reference*.

Code	Description	Type	Explanation	Source
301	Subscription Already Exists	Severe	A subscriber attempted to create a subscription that already exists for the given product code, subscriber, and carrier. You either sent a duplicate SUBSCRIBE action, or that subscriber is attempting to sign up for more than one subscription on the same product code. Each subscription instance must have a unique product code. Added 05/31/06.	VeriSign
302	Subscription Does Not Exist	Severe	Occurs if you submit a CANCEL, LAPSE, REFUND, RENEW, or REVIVE request for a subscription that does not exist. This happens if the original subscription failed and was not subsequently retried as a SUBSCRIBE action. Added 05/31/06.	VeriSign
303	Subscription No Longer Active	Fatal	Occurs if you submit a CANCEL, REFUND, or RENEW action for a subscription that is no longer active. Added 05/31/06.	VeriSign
304	Prior Billing Still Pending	Retriable	Response from SUBSCRIBE or RENEW. Although the subscription exists, the request cannot be processed because billing is still being processed for that subscriber and product code combination. This is similar to error 301, but in this instance, VeriSign is awaiting the billing results from the carrier. The subscription is pending until VeriSign processes the results. Added 05/31/06.	VeriSign
305	Anniversary Processing Has Not Completed	Retriable	Occurs if you submit a RENEW action on the subscription anniversary before renewal processing has been performed. Added 05/31/06.	VeriSign



306	Renew Either Duplicate or Sent Prior to Anniversary	Severe or Retriable	Occurs if you submit a RENEW action more than once for the current month, or before the anniversary date of the current month. See Subscription Renewals in Chapter 1: Introduction . Added 05/31/06.	VeriSign
307	Subscription Product Code Missing	Severe	Occurs if the subscription product code is missing from your SUBSCRIBE or RENEW request. Added 10/06	VeriSign
308	Subscribe Failed; Subscription is Lapsing	Retriable	Occurs if you submit a SUBSCRIBE request for a lapsing subscription. Added 10/06	VeriSign
309	Revive Failed; Subscription is Not Lapsing	Severe	Occurs if you submit a REVIVE request for an active subscription. Added 10/06	VeriSign
310	Lapse Failed; Subscription is Not Active	Severe	Occurs if you submit a LAPSE request for a subscription that is already inactive. Added 10/06	VeriSign
311	Renewal Failed; Subscription is Auto-Renew	Fatal	Occurs if you submit a RENEW request for a subscription that's been configured to renew automatically. See Subscription Renewals in Chapter 1: Introduction . Added 10/06	VeriSign
312	Subscription Stopped During Billing	Fatal	Occurs if you submit a SUBSCRIBE or RENEW action for a subscription that is currently pending cancellation or a refund. Added 10/06	VeriSign



Appendix B: Technical Support

If you have questions that are not answered by this user guide or encounter technical problems with SMS Gateway, please contact VeriSign via the Client Support System at the following address:

<http://www.m-qube.com/clientsupport>

If you do not have access to the Client Support System, please contact your VeriSign account manager for assistance.