

Developer Documentation

I2MG HTTP API

Revision 1.4

© 2005 Wireless Live Ltd
All rights reserved
All trademarks acknowledged
Information contained in this document is commercially
confidential and must not be disclosed to third parties without
the express written permission of Wireless Live Ltd

Contents

1	I2MG Service.....	2
1.1	Messages.....	2
1.1.1	Bulk Message.....	2
1.1.2	Business Message.....	2
1.1.3	Reply Message.....	2
1.1.4	Delivery Notification.....	2
1.1.5	Mobile Originated (MO).....	3
1.1.6	Premium Text.....	3
1.2	Support.....	3
1.3	Other APIs.....	3
2	HTTP Access.....	4
2.1	HTTP Server.....	4
2.2	HTTP Client.....	4
3	HTTP API.....	5
3.1	uid and password	6
3.2	spid	7
3.3	type	7
3.3.1	<i>sms</i>	7
3.3.2	<i>bulksms</i>	7
3.4	Sender and recipient.....	7
3.4.1	Multiple Recipients.....	7
3.5	Replies.....	8
3.6	Format.....	8
4	Examples.....	9
4.1	Simple Send.....	9
4.1.1	Reply back to phone.....	9
4.2	Sending Bulk SMS.....	9
4.3	Sending 2-Way SMS.....	9
4.3.1	Replies back to email.....	10
4.3.2	Replies with a subject.....	10
4.4	Unique replies.....	10
5	Receiving Notifications and SMS.....	12
5.1	HTTP Replies.....	12
5.2	HTTP Notifications.....	13
5.3	HTTP Error Message.....	13
5.4	Mobile Originated.....	13
5.5	Premium Text.....	14
6	Premium Text.....	15
6.1	Operating a service.....	15
6.2	Reverse-Bill identifier.....	17
7	Test Gateway.....	18

Revision	Date	Changes
1.0	2/5/2003	Released.
1.1	3/2/2004	Updated.
1.2	11/7/2005	Separated from main documentation
1.3	20/7/2005	Addition of Mobile Originated Messaging
1.4	20/8/2005	Addition of Premium Text Messaging

1 I2MG Service

Wireless Live has developed the Internet to Mobile Gateway (I2MG), to allow business applications to easily send and receive SMS. The gateway resides at Wireless Live, however for business critical systems it can be hosted internally in your organisation.

The Access APIs supported by the I2MG are:

- SMTP API
- HTTP API
- COM
- Web Service

This document describes the HTTP API. Documentation on the other APIs may be found at www.wireless-live.com.

1.1 Messages

The I2MG supports six types of message:

1. Bulk Message
2. Business Message
3. Reply Message
4. Delivery Notification
5. Mobile Originated
6. Premium Text

Note, not all types of message are available for all regions or all operators.

1.1.1 Bulk Message

Bulk messaging, as the name implies is a low cost messaging solution for general marketing. There are no delivery notifications and no opportunity to receive replies.

Bulk messages are sent much faster than business messages as they are not recorded in the database and therefore are more suitable when sending 1000's of non-critical messages.

1.1.2 Business Message

Business Messaging is used to send messages direct to a mobile phone without delay. Typically this is useful for announcements and reminders. These messages are high quality messages and support delivery notifications and replies.

Reply messaging gives you the ability to set up a reply path for replies to your outbound message. Replies to your message are sent to the address you specified in the outbound message, which can be an email address or HTTP URL.

1.1.3 Reply Message

When a recipient replies to a message that supports replies, the reply along with the original text is forwarded to the original sender.

1.1.4 Delivery Notification

A delivery notification is returned to the sender of the message for Business messaging. The notification is sent when the message is received by the mobile phone.

If the message fails to be delivered you will be notified in the delivery notification along with the reason for failure.

1.1.5 Mobile Originated (MO)

You can rent a dedicated or shared mobile number from Wireless Live and set up Forward Paths to receive text messages into your business applications. When a user sends a message to your number with your keyword the message is forwarded to the address you have specified.

1.1.6 Premium Text

This is a revenue generating service that is similar to Mobile Originated. You will need to rent a dedicated or shared shortcode from Wireless Live and set up routes so that the text can be forwarded to your application via your Forward Path. When you send a text back to the Mobile Sender they will be charged by their operator (reverse billed) and you will receive a portion of the payout.

1.2 Support

For developer support please contact:

Email: support@wireless-live.com

1.3 Other APIs

The majority of functionality described in this document is also supported by other APIs:

- SMTP API – Send and receive SMS by email. Useful if your applications are capable of sending email or are integrated into an email system, for example CRM.
- COM – A com component that easily integrates into a VB application or ASP page. Allows you to send SMS with a few simple calls.
- Web Service – Same as the COM component except implemented as Web Service allowing you to easily integrate SMS functionality into your Java or .NET applications.

2 HTTP Access

The I2MG Service operates as a HTTP server and HTTP client. The server mode is used for receiving requests to sending messages. The HTTP client is used to send back notifications, replies and MO messages.

2.1 HTTP Server

For performance the HTTP Server operates as an ISAPI Server and support request via GET and POST methods.

2.2 HTTP Client

The client is used for sending HTTP messages back to your application. You determine how you want replies, notifications and Mobile Originated messages forwarded to your applications by setting the Sender Address field on your outbound message or when you set up a Forward Path.

The I2MG will forward these messages to your application via HTTP GET. The format of the URL is documented below. If the I2MG fails to access your gateway because your service is unavailable it will continue to retry for up to 3 hours at 10 minute intervals.

3 HTTP API

The HTTP API allows you to access the I2MG Service with a HTTP GET or POST to the following URL:

http://i2mg.wireless-live.net/i2mg/smsr.dll?send?

Below is a brief description of the minimum mandatory parameters required by the send command:

HTTP Parameter	Values	Meaning
uid	<i>Alphanumeric</i>	Username
password	<i>Alphanumeric</i>	Password
sid	<i>Alphanumeric</i>	Sender Id – usually name of the sender. This is used instead of a mobile phone number if no-reply is requested. This can be any length but will be truncated to 11 characters if used instead of the Originator Number of the text message.
rnum	<i>MSISDN</i>	The recipient's MSISDN. This should be in full international format, for example +441233456789.
text	<i>Alphanumeric</i>	The main body of the message.

Overleaf is shown a list of optional parameters used by the send command. If the optional parameter is missing then the default value is used.

HTTP Parameter	Values	Default	Meaning
spid	<i>TESTCON</i> or <i>gensms</i>	<i>gensms</i>	Service Provider ID
type	<i>sms</i> , <i>bulksms</i> , <i>ptsms</i>	<i>sms</i>	Type of message – <i>sms</i> for high quality text messages, or <i>bulksms</i> for high throughput low cost messages. <i>ptsms</i> is a reverse bill SMS. If the type is <i>ptsms</i> then raddr needs to be the identifier sent in the original MO opt-in message.
saddr	<i>URL</i> or <i>email address</i>	<i>sid</i>	Network address of the sender, can be an email address or HTTP URL. Replies and notifications are sent to this address. This has to match the reply type field. This is not mandatory but is required if you want replies or notifications. If the value is not set then the sid value is used.
snum	<i>MSISDN</i>	<i>sid</i>	The MSISDN of the sender. This has to be in full international format, for example +44123456789. Only required if you want replies sent to your mobile phone. If the value is not set then the sid value is used.
rid	<i>Alphanumeric</i>	<i>rnum</i>	Usually the name of the recipient. However can be any identifier. This will be returned to you if a reply or notification is sent for this message. If the value is not set then the <i>rnum</i> value is used as the rid .
raddr	<i>Alphanumeric</i> or <i>email address</i>	<i>rnum</i>	The recipient's network address. You can set the value of this field to a value that is unique in your environment that represents this recipient. For example, if the recipient's details are from a database then this can be the database record identifier. If the reply type is SMTP then this should be the email address of the recipient. If this is a Premium Text then raddr will be a reverse-bill identifier. See the section on Premium Text. If the value is not set then the rnum value is used as raddr .
reply	0 – No reply 1 – Reply is sent to application. 2 – Reply is sent to phone. 3 – Reply is sent to application and phone.	0	This determines the destination of replies. Note if you set the value to 2 or 3 then snum must be set to your number. If the value is 2 then the message received by the recipient will appear to be sent from snum . If you want replies sent to your application (URL or email address) or to application and phone then the message will appear to have come from an I2MG dynamic number.
rtype	2 – SMTP 3 - HTTP	3	The reply type. Replies and notifications can be sent via HTTP or SMTP to your application.
subject			The subject of the message. This has a role similar to a subject in email and is formatted in the SMS usually as the first line of the message. The subject will be returned with replies.
options	Optional delivery parameters. 0 – No options. 1 – Flash SMS 4 – Do not send notifications	0	Optional settings for processing a message. If the message type is <i>bulksms</i> or the saddr field is empty then notifications are automatically omitted.

3.1 uid and password

Your I2MG Account is comprised of a Username and Password. If you are using GenSMS for your message delivery then username is the first two fields of your serial key and password are the second two fields.

For example, if your GenSMS serial key is:

OFX1 – 234 – 567 – 890

Then your username would be *OFX1234* and password *567890*.

3.2 spid

The spid is the SMS service provider identifier and two values are supported *TESTCON* and *gensms*.

When you are developing your application then you can specify *TESTCON* as the spid. This will allow you to use the I2MG Test SMSC which will show you messages received and allow you simulate replies, notifications and MO messages.

Simply change the spid to *gensms* and your messages will now become live and sent to the recipient's handset.

3.3 type

The supported types with this API are *sms* and *bulksms*.

3.3.1 sms

This value is used to sending the business messages.

3.3.2 bulksms

This value is used for sending bulk messages. Bulk messages are sent much faster and have

3.4 Sender and recipient

The I2MG allows for up to three parameters to define either the sender or the recipient. This is because in the interaction between Internet and Mobile a recipient can have an Internet Address (e.g. email address), Mobile Number and, for display purposes, a name.

The sender (you) can be defined by the three parameters:

1. **saddr** – Your unique Internet address. If want replies to come back via SMTP then this should be an email address, or if you want replies to come back via HTTP this should be a URL.
2. **sid** – Your name or other means of identifying you to the recipient. This value maybe used in place of a mobile number if no replies are required.
3. **snum** – Your mobile number. This will also be used as the mobile number of the sender if you require replies to be sent to your application.

The recipient can be defined by the three parameters:

1. **raddr** – Their unique identifier. If you want replies to come back via SMTP then this should be an email address or if you want replies to come back via HTTP then this could be an identifier that uniquely identifies this recipient in your application, e.g. a database key. If this is a reverse-billed chargeable message then the **raddr** has to be the reverse-bill ID that was received from the original MO.
2. **rid** – Their name. This is a friendly display name.
3. **rnum** – Their mobile number.

3.4.1 Multiple Recipients

Multiple recipients can be specified in a single message by using commas to separate the files. For example,

```
rnum=+4412345689,+4445678889,+44565766556&raddr=user1,user2,user3&rid=tom,dick,harry
```

3.5 Replies

One of the unique features of the I2MG is the ability to send back replies to your outbound message. These replies are not simply just forwarded back but are matched to your original outbound message. This means that the I2MG can be used as a transactional service between business database applications and mobile recipients. Examples of these maybe Web Mail, voting and appointment applications, where the reply back can be used to update information in a database.

To control the replies you will need to set:

1. **reply** – This sets where the reply should be sent. If you want replies to come back to your application then set this to 1 (application).
2. **rtype** – This sets how the reply should be sent. If you want replies to come back to a web page then set this to 3 (HTTP).
3. **saddr** – This is the address to send to replies to. If your application is a web application then this should be the URL of the page.

3.6 Format

The format of the text message is sent to the recipient will be:

subject

text

where *subject* is the value of the **subject** parameter and *text* is the value of **text** parameter.

The subject is useful in the same way it is in email. Replies to a message will have an updated subject of the form:

RE: subject

4 Examples

This section shows some basic examples.

4.1 Simple Send

The most basic send operation can be achieved with a command as simple as:

```
http://i2mg.wireless-  
live.com/i2mg/smsr.dll?send?uid=OFN123&password=456789&rnum=%2B4412345678&sid=Fred&text=Test%20Message
```

This will send the message 'Test Message' to +44123456789 and appear to come from Fred.

As we have the default options, then there will be no replies and as we have not specified an **saddr** then there will not be any notifications.

4.1.1 Reply back to phone

To have replies sent back to a mobile phone then the above URL can be adjusted to:

```
http://i2mg.wireless-  
live.com/i2mg/smsr.dll?send?uid=OFN123&password=456789&rnum=%2B4412345678&sid=Fred&text=Test%20Message&rtype=2&snum=%2B4411111111
```

This will send the message 'Test Message' to +44123456789 and appear to come from +4411111111. If the recipient replies then the text message will be sent to +4411111111.

4.2 Sending Bulk SMS

Sending bulk SMS via HTTP would require a command of the form.

```
http://i2mg.wireless-  
live.com/i2mg/smsr.dll?send?uid=OFN123&password=456789&rnum=%2B4412345660,  
%2B4412345670,%2B4412345671,%2B4412345672,%2B4412345673,%2B4412345674,  
%2B4412345675,%2B4412345675,%2B4412345677,%2B4412345678,%2B4412345679,  
%2B4412345680,%2B4412345681,%2B4412345682,%2B4412345683,%2B4412345684  
%2B4412345685%2B4412345686%2B4412345687&sid=MyCompany&text=Special%20Offer&type=bulksms
```

This will send 18 messages from a bulksms account and appear to come from 'MyCompany' with the text 'Special Offer'.

4.3 Sending 2-Way SMS

A 2-Way SMS is a message that is sent to a mobile recipient and replies are forwarded back to your application.

To successfully handle 2-Way SMS then you will need to have a URL to receive the reply and if notifications.

Let us assume your page is <http://www.mycompany.com/receivesms.asp>

```
http://i2mg.wireless-  
live.com/i2mg/smsr.dll?send?uid=OFN123&password=456789&rnum=%2B4412345678&sid=MyCompany&t
```

```
ext=Please%20call%20John%2E&saddr=http%3A%2F%2Fwww%2Emycompany%2Ecom%2Freceivesms%2Easp&reply=1
```

This would result in the message ‘Please call John.’ Being sent to +4412345678 and appear to come from an I2MG dynamic number. The reply =1 means that any reply or notification will be sent to **saddr**.

As **rtype** is not specified then by default it will be HTTP and the reply or notification will be POST back to **saddr**. The format of the reply back is documented in Section 5 – Receiving SMS.

4.3.1 Replies back to email

Alternatively you could have replies and notifications sent to your email address. In this case **saddr** would be an email address and **rtype**=2. Also, it is better to put the email address (**raddr**) of the recipient so that when replies are received they would appear to come from the email address of the original recipient.

```
http://i2mg.wireless-live.com/i2mg/smsr.dll?send?uid=OFN123&password=456789&rnum=%2B4412345678&sid=MyCompany&ext=Please%20call%20John%2E&saddr=fred%40mycompany%2Ecom&reply=1&rtype=2&raddr=bill%40mycompany%2Ecom
```

4.3.2 Replies with a subject

You can additionally add a subject field. This will change the format of your text message and also the subject field will be returned in any replies. See Section 5 – Receiving SMS.

Using our earlier example and adding a subject:

```
http://i2mg.wireless-live.com/i2mg/smsr.dll?send?uid=OFN123&password=456789&rnum=%2B4412345678&sid=MyCompany&ext=Please%20call%20John%2E&saddr=http%3A%2F%2Fwww%2Emycompany%2Ecom%2Freceivesms%2Easp&reply=1&subject=Urgent
```

The recipient will receive the following text:

```
Urgent  
Please call John
```

4.4 Unique replies

One of the key features of the I2MG gateway is the ability to match replies to outbound text messages and not just recipients. For example if you were to send 2 messages to Recipient A and Recipient A replies, then you would need to know which message Recipient A was replying to. This functionality is commonly required in database applications where a database entry is updated in response to a reply received from an outbound request.

To do this within the HTTP API we suggest using the **raddr** field as unique identifier to represent a transaction id of the message.

So if Recipient A is to receive 2 messages the **raddr**=1001 on the first message and **raddr**=1002 on the second. The **raddr** field is returned in replies and notifications and could be used to locate information about the outbound message.

Alternatively you can use the **saddr** field to include the unique identifier such that

For message 1, **saddr**= *http://www.mycompany.com/receivesms.asp?MyId=1001*

For message 2, **saddr**= *http://www.mycompany.com/receivesms.asp?MyId=1002*

5 Receiving Notifications and SMS

The I2MG service will forward replies, notifications and mobile originated text messages to your application.

The address for replies and notifications is set via one of two ways:

1. The outbound message specifies **saddr**
2. The route has been setup for Mobile Originated message service

Depending on the value of **rtype** the format of the reply and the response varies. If the **rtype** is set to 3 (HTTP) then **saddr** needs to be a URL that can receive the responses, such as an ASP page.

For example, **saddr** could be specified as *http://www.mycompany.com/receivesms.asp?MyId=1002*

The **type** field is used to distinguish between replies, notifications and errors.

Response and notifications will be sent to the URL with the following additional values attached:

HTTP Response	Meaning
type	The type of response: 1 – Reply 2 – Delivery notification 3 – Error notification
sid	The id of the sender, this would be the value specified in the original outbound message as the rid or blank if Mobile Originated.
smobile	The sender's mobile number.
saddress	The sender's address as specified in the original request as raddr or if Mobile Originated then raddr will be a reverse-bill identifier, otherwise blank.
subject	The subject of the message as sent in the original request or the Keyword associated with Mobile Originated message. Notification Subject: Delivery Notification
body	The text sent by the sender, or notification text or error text. Notification Text: Successfully delivered SMS message to xxxxxxxxxx
obody	The text sent in the original message or the keyword if Mobile Originated.

5.1 HTTP Replies

Sending the message

```
Test Message  
Hello World
```

To recipient **rnum**=+4412345678, with **rid**=User1 and **raddr**=12345 and our URL for replies is *http://www.mycompany.com/receivesms.asp?MyId=1002*

Would look like:

```
http://i2mg.wireless-  
live.com/i2mg/smsr.dll?send?uid=OFN123&password=456789&rnum=%2B4412345678&sid=MyCompany&  
t&ext>Hello%20World&saddr= http%3A%2F%2Fwww%2Emycompany%2Ecom%2Freceivesms%2Easp  
?MyId=1002&reply=1&rtype=3&raddr=12345&subject=Test%20message&rid=User1
```

A reply to our outbound message with the text 'This is the reply' would look like:

```
http://www.mycompany.com/receivesms.asp?MyId=1002?type=1&sid=User1&smobile=%2B4412345678&  
saddress=12345&subject=Test%20Message&body=This%20is%20the%20reply&obody=Hello%20World
```

5.2 HTTP Notifications

The delivery notification for the above example would look like:

```
http://www.mycompany.com/receivesms.asp?MyId=12345&type=2&sid=User1&smobile=%2B4412345678  
&saddress=12345&subject=Delivery%20Notification&body=Successfully%20delivered%20SMS%20mes  
sage%20to%20%204412345678&obody=Hello%20World
```

Or without showing the URL encoding:

```
http://www.mycompany.com/receivesms.asp?MyId=12345&type=2&sid=User1&smobile=+4412345678&s  
address=12345&subject=Delivery Notification&body=Successfully delivered SMS message to  
+4412345678&obody=Hello World
```

There is no way to distinguish between a successful or failed message without scanning the text in the **body** field. If the message is successfully delivered the message will start *Successfully Delivered* otherwise it would start *Failed to deliver*.

5.3 HTTP Error Message

If an error occurs then the results are posted back to the same URL. For example if the account details are not valid you will receive:

```
http://www.mycompany.com/receivesms.asp?MyId=1002?type=3&sid=User1&smobile=%2B4412345678&  
saddress=12345&subject=Failed%20to%20deliver%20SMS%20to%20one%20or%20more%20recipients&bo  
dy=Account%20details%20are%20not%20valid%2E%0AFor%20more%20details%20see%20http%3A%2F%2Fw  
ww%2Egensms%2Ecom%2Fasp%2Fsupport%2Ffaqs%2Easp&obody=Test%20Message%0AHello%20World  
HTTP/1.1
```

The body of the error message reads:

```
Account Details are not valid. For more details see  
http://www.gensms.com/asp/support/faqs.asp
```

5.4 Mobile Originated

Mobile Originated messages are identical to reply messages but with the exception that:

1. The route needs to be set-up beforehand.
2. The subject would normally be the keyword associated with the route.
3. The original body would be blank.

For example if you have an MO route set up with the following parameters:

```
Number=8088
```

```
Keyword = SCORE
```

```
Route = http://www.mycompany.com/SendScore.asp
```

```
Route Type = 3 (HTTP)
```

If a user on +4412345678 was to Text: *SCORE ManU* to 8088. The I2MG Service would send:

<http://www.mycompany.com/SendScore.asp?type=1&sid=%2B4412345678&smobile=%2B4412345678&saddress=&subject=SCORE&body=SCORE%20ManU&obody=SCORE>

5.5 Premium Text

If in the message to be returned to the sender in the example above was to be a reversed-billed chargeable message then a reverse-bill ID would be sent as **saddress**. Therefore the MO message would be:

<http://www.mycompany.com/SendScore.asp?type=1&sid=%2B4412345678&smobile=%2B4412345678&saddress=1edfr3ss232&subject=SCORE&body=SCORE%20ManU&obody=SCORE>

6 Premium Text

This section describes in more detail the process of creating an application that utilises Premium Text messaging.

Premium Text messaging is a mechanism by which you can generate revenue for operating a service like distributing ring-tones, operating competitions or a subscription service.

The service is available for all major UK mobile operators, however the following restrictions apply:

1. Reverse charge messages only available for 5 digit short codes.
2. Reverse charge message is limited to 7-bit text. This means a ring-tone can not be sent as Premium Text.

6.1 Operating a service

To operate a Premium Text service you will need to perform the following:

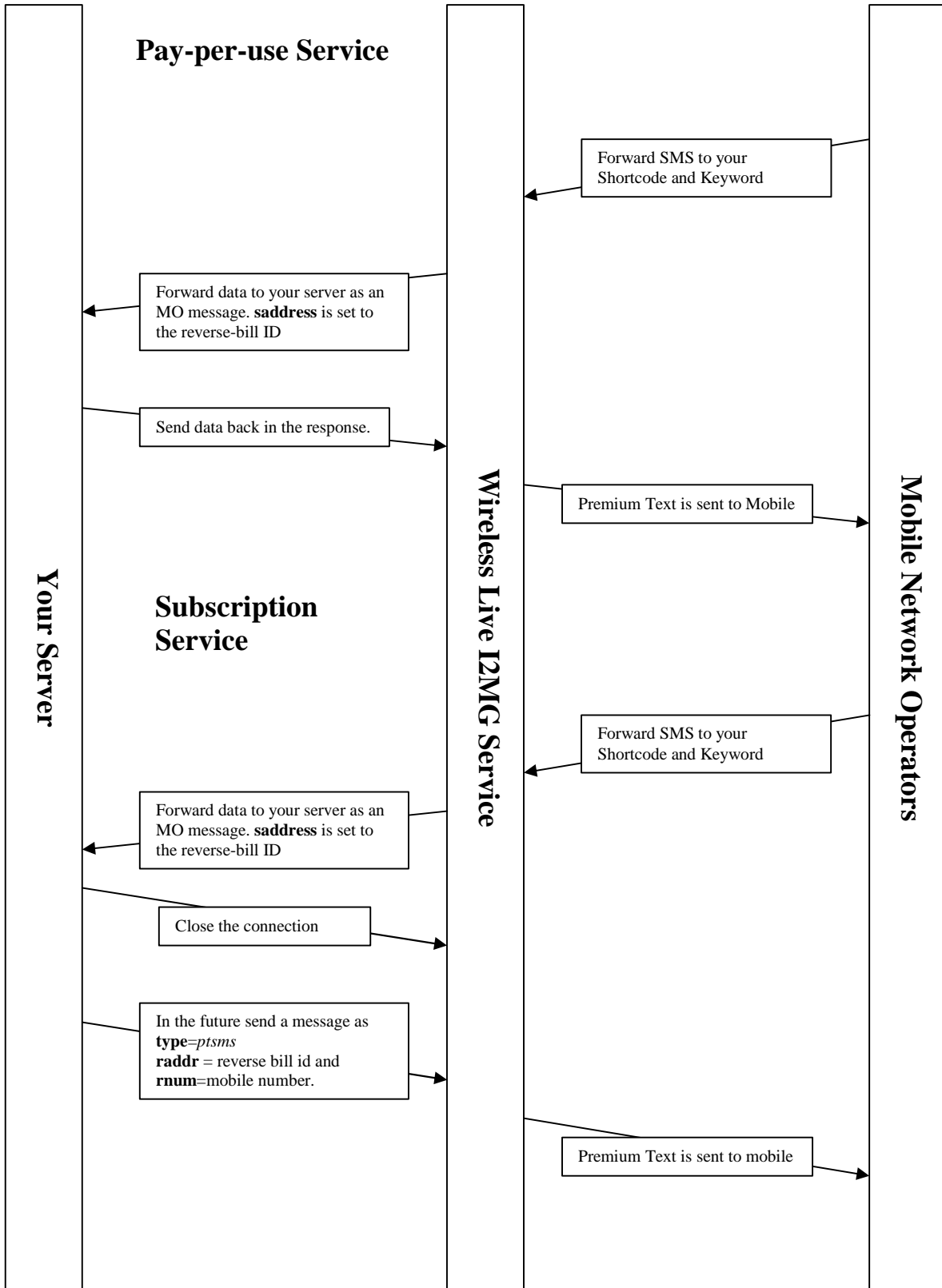
- 1) Decide whether this is a subscription or pay-per-use.
- 2) Decide on your charge-band for your service.
- 3) Decide on a keyword.
- 4) Set-up a URL to receive your messages
- 5) Set-up a route with Wireless Live on a 5-digit short code.

When a mobile customer sends a text message to your shortcode and keyword, we will send an MO message to your nominated URL. The MO messages will have **saddress** set to a reverse-bill ID.

If you operate a subscription service where users opt-in to receive future Premium Texts then you will need to keep hold of this ID as you will need to supply it in **raddr** when you send a Premium Text. Every time you send a message of **type ptsms** then **raddr** has to be the reverse-bill ID. The recipient will be charged every time they receive the message.

If you operate a pay-per-use service, in other words each MO message results in one chargeable Premium Text (e.g. Ring Tones) then you simply need to send the message back in the body of the reply. This message will be sent back the mobile recipient as a Premium Text.

AR only 7-bit text can be sent as a Premium Text then for a service that sends binary data, like ring tones, you should respond with 'Thanks for your order, we will send the Ring Tone now.' And send the ring tone in a separate MT message.



6.2 Reverse-Bill identifier

The reverse-bill ID is required in order to generate a Premium Text that can be charged to the recipient's mobile phone bill by their operator. It is sent to you in the **saddress** field of the MO message.

If you operate a Pay-Per-Use service then you will not need to record this identifier. Simply enter the text in the response and close the connection. The I2MG service will pass on all the required information to the operator and send the message to the recipient.

If you operate a subscription service where users subscribe once to receive regular chargeable updates, then you will need to store the reverse-bill identifier as well as the mobile number of the subscriber. You will need to set the value of **raddr** as the reverse-bill identifier and the **type** as *ptsms* in order for them to be charged.

7 Test Gateway

To test your applications, Wireless Live allows you to access a Test Gateway that simulates a user receiving your message and you may send replies and delivery notifications.

You can also send MO messages which will be forwarded on to your application.

To use the service you simply contact support@wireless-live.com to have an account created and set the **spid** field to *TESTCON*. Your outbound messages will be routed to the test gateway.

The test gateway is located at <http://i2mg.wireless-live.net/i2mg/i2mgtest/>

Once you have tested your applications you can easily switch your application to live by setting the **spid** field to *gensms*.