Event Notification Service

Integration Guide

Contents

Document change log

Date	Version	Change detail
11th August 2008	1.0	Published
9th September 2008	1.1	Clarified XML field presentation. Added nextRenewalDate to START, RENEW_OK and RENEW_RETRY events.
25th November 2008	1.2	Added RENEW_UNCOLLECTED event Added networkId to all events
08th April 2009	1.3	REVOKE event added. Cancellation Reason added to CANCEL and REVOKE events.
16th June 2009	1.4	“ref” and “reason” fields added to Marketing Opt In event. “ref” field added to Marketing Opt Out event.
15th April 2010	1.5	Subscription RENEW_FAIL and RENEW_RETRY and RENEW_UNCOLLECTED events now return the billings status failure code.
16th June 2010	1.6	New PAYMENT source added, events batched by SOURCE
24th August 2010	1.7	New MOBILEIDENTITY source added New PAGETRACKING source added
13th December 2010	1.8	New paymentSourceType added to PAYMENT events
18th January 2011	1.9	New PRERENEWAL action added to SUBSCRIPTION source.

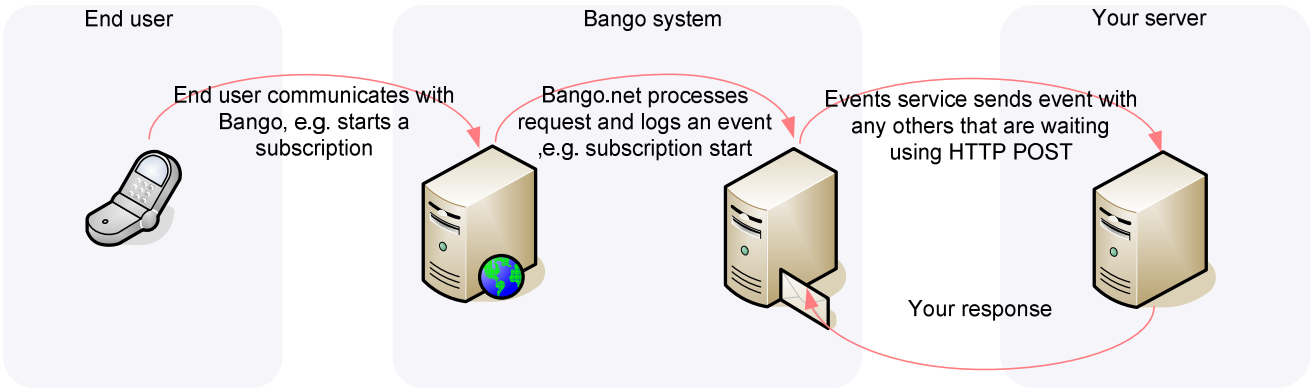
Introduction

The Bango Event Notification service sends notifications about selected events related to your mobile store or services directly to your servers. Events are sent to you as XML documents via HTTP or HTTPS.

Each event relates to a number of objects in the Bango system (e.g. a user that has purchased from your store; a user that has opted into your marketing messages etc) and describes an action associated with that object (e.g. subscription started, subscription renewed, subscription cancelled etc).

Events are sent by the Bango system directly to your server without need for user interaction. For example, if a user has started a subscription on one of your Bango Numbers, then an event notification will be generated and sent to your server shortly afterwards – without requiring the user to do anything.

This diagram shows the Event Notification service architecture:



Events are lightweight and indicate which objects within the Bango system are affected by the event (e.g. user account, Bango Number, subscription ID etc). If you require more information about an object then you can use the relevant web service to find out more.

If you need more detailed information about any of the objects associated with an event (e.g. the date and time of the next subscription renewal attempt), the Bango Web Services API can be used. This makes sure no stale data is sent to your system – you always have the very latest state for any object by querying the Bango Web Services API.

How Event Notification works

When an event occurs in the Bango system, a notification is generated and assigned a unique sequence number (the “event ID”). Each event has a source and a type (e.g. source SUBSCRIPTION, type START or RENEW_OK). An event also has a date and time – this lets you know exactly when the event happened, so you can tell specifically when a subscription started, renewed or was cancelled etc.

Events are put into an outbound queue and grouped into batches by source before being published to your server. Each batch contains no more than 50 events. Each batch will only contain events from one source. Depending on the number of events in the queue, publication generally happens in near real-time.

Each batch is sent to your server via a simple HTTP or HTTPS POST request containing a single “XML” field. The request is encoded using the UTF-8 standard – make sure to use UTF-8 when reading the payload. This field contains the batch of events and is URL-encoded and formatted without indentation or newlines, improving performance.

Events in a source are always sent to your server in the chronological order in which they occurred. However, please note, although the event ID will increase on each event, this is not a sequential numbering scheme.

To receive event batches, you need to host a simple page to process the XML batch data. This page should receive a simple HTTP (or HTTP) POST request – no need for SOAP or Web Services. Once your batch processing page is available, see the “Enabling Event Notification” section at the end of this guide for details on how to enable event publication via the Bango.com Management Tools.

Batches

When posted to your server, an event batch looks like this:

```
<?xml version="1.0" encoding="utf-8"?><bangoEvents
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="http://xml.bango.net/schemas/subscription.xsd"
version="1.0"><packageId>82116</packageId><time>2008-07-
28T09:11:15:31+00:00</time><source>SUBSCRIPTION</source><eventList><event><id>6625
631</id><time>2008-07-
24T12:11:10:31+00:00</time><action>RENEW_FAIL</action><data><item
name="subscriptionId" value="526" /><item name="userId" value="431" /><item
name="bango" value="515" /></data></event><event><id>6625641</id><time>2008-07-
24T12:11:12:13+00:00</time><action>RENEW_WAIT</action><data><item
name="subscriptionId" value="299" /><item name="userId" value="539" /><item
name="bango" value="236" /></data></event></eventList></bangoEvents>
```

The source element inside the event element is only in the XML for backwards compatibility.

However, note that for full HTTP compliance, the XML content is contained in a field called “XML” within the HTTP POST request, and the value is URL-encoded to make it web-safe:

```
XML=%3C%3Fxml%20version%3D%221.0%22%20encoding%3D%22utf-
8%22%3F%3E%3CbangoEvents%20xmlns%3Axsi%3D%22http%3A%2F%2Fwww.w3.org%2F2001%2FXMLSc
hema-
instance%22%20xsi%3AnoNamespaceSchemaLocation%3D%22http%3A%2F%2Fxml.bango.net%2Fsc
hemas%2Fsubscription.xsd%22%20version%3D%221.0%22%3E%3CpackageId%3E82116%3C%2Fpack
ageId%3E%3Ctime%3E2008-07-
28T09%3A11%3A15%3A31%2B00%3A00%3C%2Ftime%3E%3Csource%3ESUBSCRIPTION%3C%2Fsource%3E
%3CeventList%3E%3Cevent%3E%3Cid%3E6625631%3C%2Fid%3E%3Ctime%3E2008-07-
24T12%3A11%3A10%3A31%2B00%3A00%3C%2Ftime%3E%3Caction%3ERENEW_FAIL%3C%2Faction%3E%3
Cdata%3E%3Citem%20name%3D%22subscriptionId%22%20value%3D%22526%22%20%2F%3E%3Citem%
20name%3D%22userId%22%20value%3D%22431%22%20%2F%3E%3Citem%20name%3D%22bango%22%20v
alue%3D%22515%22%20%2F%3E%3C%2Fdata%3E%3C%2Fevent%3E%3Cevent%3E%3Cid%3E6625641%3C%
2Fid%3E%3Ctime%3E2008-07-
24T12%3A11%3A12%3A13%2B00%3A00%3C%2Ftime%3E%3Caction%3ERENEW_WAIT%3C%2Faction%3E%3
Cdata%3E%3Citem%20name%3D%22subscriptionId%22%20value%3D%22299%22%20%2F%3E%3Citem%
20name%3D%22userId%22%20value%3D%22539%22%20%2F%3E%3Citem%20name%3D%22bango%22%20v
alue%3D%22236%22%20%2F%3E%3C%2Fdata%3E%3C%2Fevent%3E%3C%2FeventList%3E%3C%2FbangoE
vents%3E
```


When your server receives an event batch, extract the value of the "XML" field, URL-decode it and parse the XML, processing each of the contained events in turn.

Each batch will normally be published to your server just once, but if your server fails to process a batch for any reason (e.g. transmission fails due to a communication error) a batch will automatically be resent to you again later. As it is possible for you to receive the same event more than once you should use the event ID to make sure you have not already processed an individual event.

XML Structure

An example of the XML document posted to your server is shown below:

```
<?xml version="1.0" encoding="utf-8"?>
<bangoEvents xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:noNamespaceSchemaLocation="http://xml.bango.net/schemas/subscription.xsd" version="1.0" >
      <packageId>123</packageId>
      <time>2008-05-28T14:16:01+00:00</time>
      <source>SUBSCRIPTION</source>
      <eventList>
      <!-- Subscription start event -->
            <event>
                  <id>1535131</id>
                  <time>2008-05-28T14:16:01+00:00</time>
                  <action>RENEW_OK</action>
                  <data>
                        <item name="subscriptionId" value="12345"/>
                        <item name="userId" value="9568"/>
                        <item name="bango" value="72433"/>
                        <item name="nextRenewalDate" value="2008-06-28T14:16:01+00:00"/>
                  </data>
```

The package id for the batch of events.

The time that the event batch was created (UTC)

The source of the notification, for example 'SUBSCRIPTION', 'MARKETING' or 'PAYMENT'

The unique event ID generated by the Event Notification Service

The time that the event was generated (UTC)

```
            </event>
            <!-- Subscription renewal -->
            <event>
                  <id>1535136</id>
                  <time>2008-05-28T14:16:01+00:00</time>
                  <action>RENEW_OK</action>
                  <data>
                        <item name="subscriptionId" value="12345"/>
                        <item name="userId" value="9568"/>
                        <item name="bango" value="72433"/>
                        <item name="nextRenewalDate" value="2008-06-28T14:16:01+00:00"/>

                  </data>
            </event>
      </eventList>

</bangoEvents>
```

The <data> element can contain one or more data Items.

The item elements contain the data that relates to the event. In this case "subscriptionId"

Responding to the event notification

When Bango posts an event batch to your server, you should process all the events in the batch and, once finished, return HTTP status code 200. Any content returned will be ignored – only the HTTP status code is checked.

The batch will automatically be put into a retry cycle if:

- Anything other than HTTP status code 200 is returned
- Your server takes longer than 60 seconds to process the batch – this is treated as a timeout

Retry cycle

Should transmission of a batch fail (e.g. your server is offline or returns an error), that batch will automatically enter a retry cycle. Any further events will be queued up until the failed batch has been sent OK, immediately followed by all queued events.

To be sure you only process new events, check the unique ID on each event in each batch. If you have seen the event ID before, ignore that event – it is part of a failed batch that is being resent to you.

A "failed" batch will be resent at the following intervals:

- 1 minute
- 5 minutes
- 15 minutes
- 30 minutes
- 1 hour
- 6 hours
- 12 hours

- 24 hours
- 48 hours

If batch transmission fails at any attempt, the support contact on your Bango Package will be sent an email notification – one email for each failed attempt to post the event batch to your server. This email advises exactly why transmission failed, or what error we got back from your server.

If a batch reaches the end of the above retry cycle and has still not been received by your server, that batch and all subsequent events will be held in the outbound queue on the Bango servers. Once the issue with your server has been resolved, contact Bango Customer Services to resume event publication.

Event expiration

Any events that we have been unable to send to your server due to transmission errors will automatically be purged from the queue after 14 days. Purged events cannot be recovered and will not be sent to your server.

Security

The event notification service supports two levels of security to ensure that events cannot be intercepted between servers and that it is the Bango platform that is sending you the events.

There are two primary levels of security:

- Basic HTTP authentication
- Secure Sockets Layer (SSL)

We do not enforce these security measures but we strongly suggest that you use SSL to receive the data.

Enabling Event Notification

Before you can use the event notification, you need to update the following properties on your package using the Properties area of the bango.com Management Tools:

Event Notification		
Property Title	Property Value	
Publication URL	http://someurl.com/eventcatcher/	Edit
Publication URL username	*Not set*	Edit
Publication URL password	*Not set*	Edit
Event source enabled (MARKETING)	y	Edit
Event source enabled (SUBSCRIPTION)	*n*	Edit
Event source enabled (MOBILEIDENTITY)	y	Edit
Event source enabled (PAGETRACKING)	y	Edit
Event source enabled (PAYMENT)	*n*	Edit

- **Publication URL**
  This is the URL that you would like the service to send the events to.

- **Publication URL username**
  If you have basic HTTP authentication enabled on the URL that you have supplied then you must specify a username.

- **Publication URL password**
  If you have basic HTTP authentication enabled on the URL that you have supplied then you must specify a password.

- **Event Source enabled (SOURCE)**
  This is the SOURCE of event you would like posted to your server, for example if you would like subscription events then set Event source enabled (SUBSCRIPTION) to 'Y'.

Access to the event notification is available for Payment packages only, not including trial packages.

Port Numbers

Wherever possible, make sure the URL to which you ask us to post event notifications is listening on a standard port (e.g. port 80 or 8080).

If you cannot use a standard port number, please contact support@bango.com to request that we open our firewalls to allow events to be posted to the port number you need to us.

Sources and actions

Each event is generated by a “source”. This is the object in the Bango system that caused the event to be generated. A single notification will only contain events from one source.

The following sources are currently supported:

- Subscriptions
- Marketing preferences
- Payments
- Mobile Identity
- Page Tracking

Each event also has an action, indicating exactly what happened to the object. For example, an event of source “SUBSCRIPTION” could have an action of “RENEW_OK” if a user has renewed their subscription, or “RENEW_FAIL” if renewal fails (e.g. the user has reached their monthly on-bill spend limit).

Each source can be enabled independently via the Properties section of the Bango.com Management Tools.

Additional Data

Alongside the event source/action, the event notification service will also send supporting data for the event.

This is normally a list of object IDs in the Bango system associated with this event (e.g. the user ID, the Bango Number, the subscription ID etc).

This data is contained within the “data” element in each event and can be used to give your system additional context for the event, or be used with the Bango Web Services API to get more information on a related object – e.g. a user account or subscription ID etc.

Event Sources

The currently supported sources are described as follows.

Subscription Events

To describe the schema used in events of source SUBSCRIPTION, please see the following table:

Element name	Data type	Description	Example
id	64-bit Integer	The unique identifier of this event.	`156278`
time	String	String representation of the date and time, in the format:	`2008-05-28T14:16:00+00:00`

		YYYY-MM-DD**T**HH:MM:SS**+**HH:MM **+**HH:MM indicates the time relative to UTC.	
action	String	START RENEW_OK RENEW_WAIT RENEW_RETRY RENEW_FAIL RENEW_UNCOLLECTED CANCEL REVOKE	Subscription started Renewed subscription Renewal waiting Renewal in retry cycle Renewal failed Payment not collected Subscription cancelled Subscription revoked

data

Events have the following data items within the <data> element:

Element name	Data type	Description
subscriptionId	32-bit Integer	ID of the subscription in the Bango system
userId	32-bit Integer	Unique ID of the user that generated the event
bango	String	Bango number that the subscription relates to
p	String	Custom parameter passed to the Bango payment page (sent for START action only)
nextRenewalDate	Date/Time	When the next renewal will be attempted (for START, RENEW_OK and RENEW_RETRY only)
uncollectedPeriods	32-bit Integer	The number of consecutive uncollected periods
networkId	String	ID of the network associated with this subscription
cancelSource	String	The source of the cancellation for CANCEL and REVOKE events. Currently returns one of the following: BANGO BILLER CP OPERATOR USER
cancelReasonCode	String	The codified reason the subscription was cancelled by the “cancel source”. DEVICE SHORTCODE CURRENCY_CHANGE CUSTOMER_SERVICES INACTIVE MIGRATION MSISDN_DISCONNECT WEBSERVICE CANCELLED

		ERROR
cancelReasonMessage	String	Any additional description of the cancellation reason code (e.g. exact message from operator, biller or Bango Customer Services)
billingStatus	String	Available when the action is RENEW_RETRY, RENEW_FAIL or RENEW_UNCOLLECTED. The status codes we return are available from our knowledge base (http://support.bango.com/entries/23381162)

An example <data> element:

```
<data>
       <item name="subscriptionId" value="12345" />
       <item name="userId" value="9568" />
       <item name="bango" value="72433" />
       <item name="networkId" value="USA_SPRINT" />
</data>
```

Subscription Actions

The actions supported by the SUBSCRIPTION source are:

Action	START
Description	Subscription has started.
XML	<event> <id>2</id> <time>2008-05-28T14:16:01+00:00</time> <action>START</action> <data> <item name="subscriptionId" value="12345" /> <item name="userId" value="9568" /> <item name="bango" value="72433" /> <item name="p" value="whatever+you+sent+us" /> <item name="nextRenewalDate" value="2008-06-28T14:16:01+00:00" /> <item name="networkId" value="USA_SPRINT" /> </data> </event>

Action	RENEW_OK
Description	Subscription has renewed successfully.
XML	<event> <id>2</id> <time>2008-05-28T14:16:01+00:00</time>

```
    <action>RENEW_OK</action>
    <data>
        <item name="subscriptionId" value="12345" />
        <item name="userId" value="9568" />
        <item name="bango" value="72433" />
        <item name="nextRenewalDate" value="2008-06-28T14:16:01+00:00" />
        <item name="networkId" value="USA_ATT" />
    </data>
</event>
```

Action	RENEW_WAIT
Description	Subscription has renewed but waiting for confirmation from the biller that payment has been collected OK.
XML	

```
<event>
    <id>2</id>
    <time>2008-05-28T14:16:01+00:00</time>
    <action>RENEW_WAIT</action>
    <data>
        <item name="subscriptionId" value="12345" />
        <item name="userId" value="9568" />
        <item name="bango" value="72433" />
        <item name="networkId" value="USA_TMOBILE" />
    </data>
</event>
```

Action	RENEW_RETRY
Description	Subscription renewal failed with a recoverable status code (e.g. user out of credit, temporarily barred by the biller etc) and will retry shortly according to operator-approved retry interval policy.
XML	

```
<event>
    <id>2</id>
    <time>2008-05-28T14:16:01+00:00</time>
    <action>RENEW_RETRY</action>
    <data>
        <item name="subscriptionId" value="12345" />
        <item name="userId" value="9568" />
        <item name="bango" value="72433" />
        <item name="nextRenewalDate" value="2008-06-28T14:16:01+00:00" />
        <item name="networkId" value="USA_VIRGIN" />
        <item name="billingStatus" value="USER_SUSPENDED" />
    </data>
</event>
```

Action	RENEW_FAIL
Description	Subscription renewal and all retry attempts failed.
XML	

```
<event>
```

	<id>2</id> <time>2008-05-28T14:16:01+00:00</time> <source>SUBSCRIPTION</source> <action>RENEW_FAIL</action> <data> <item name="subscriptionId" value="12345" /> <item name="userId" value="9568" /> <item name="bango" value="72433" /> <item name="networkId" value="GBR_VODAFONE" /> <item name="billingStatus" value="USER_SUSPENDED" /> </data> </event>

Action	RENEW_UNCOLLECTED
Description	Subscription payment has not been collected for this period. The renewal for the next period will however be attempted – the subscription has not gone to an ERROR status. This subscription has however not been paid for this period.
XML	<event> <id>2</id> <time>2008-05-28T14:16:01+00:00</time> <action>RENEW_FAIL</action> <data> <item name="subscriptionId" value="12345" /> <item name="userId" value="9568" /> <item name="bango" value="72433" /> <item name="nextRenewalDate" value="2008-06-28T14:16:01+00:00" /> <item name="uncollectedPeriods" value="2" /> <item name="networkId" value="GBR_VODAFONE" /> <item name="billingStatus" value="USER_SUSPENDED" /> </data> </event>

Action	CANCEL
Description	Subscription cancelled.
XML	<event> <id>2</id> <time>2008-05-28T14:16:01+00:00</time> <action>CANCEL</action> <data> <item name="subscriptionId" value="12345" /> <item name="userId" value="9568" /> <item name="bango" value="72433" /> <item name="networkId" value="ESP_MOVISTAR" /> <item name="cancelSource" value="USER" /> <item name="cancelReasonCode" value="DEVICE" /> <item name="cancelReasonMessage" value="User cancelled via My Account on-device" />

	</data> </event>

Action	REVOKE
Description	Subscription cancelled and revoked. This event will follow a CANCEL event. It indicates that the subscription should be stopped immediately, and not run until the next renewal date.
XML	<event> <id>2</id> <time>2008-05-28T14:16:01+00:00</time> <action>REVOKE</action> <data> <item name="subscriptionId" value="12345" /> <item name="userId" value="9568" /> <item name="bango" value="72433" /> <item name="networkId" value="ESP_MOVISTAR" /> <item name="cancelSource" value="CP" /> <item name="cancelReasonCode" value="WEBSERVICE" /> <item name="cancelReasonMessage" value="CancelSubscription" /> </data> </event>

Action	PRERENEWAL
Description	Subscription is due to renew at a specified time. The event could be used if you wish send users a txt message to tell them of a pending renewal.
XML	<event> <id>2</id> <time>2008-05-28T14:16:01+00:00</time> <action>PRERENEWAL</action> <data> <item name="subscriptionId" value="12345" /> <item name="userId" value="9568" /> <item name="bango" value="72433" /> <item name="networkId" value="ESP_MOVISTAR" /> <item name="nextRenewalDate" value="2011-06-28T14:16:01+00:00" /> </data> </event>

Marketing Opt-in/out Events

To describe the schema used in events of source MARKETING, please see the following table:

<table>
<tr><th>Element name</th><th>Data type</th><th>Description</th><th>Example</th></tr>
<tr><td>id</td><td>64-bit Integer</td><td>The unique identifier of this event</td><td>156278</td></tr>
<tr><td>time</td><td>String</td><td>String representation of the date and time, in the format:

YYYY-MM-DDTHH:MM:SS+HH:MM

+HH:MM indicates the time relative to UTC.</td><td>2008-05-28T14:16:00+00:00</td></tr>
<tr><td>action</td><td>String</td><td>User opted in to marketing info
User opted out of marketing info</td><td>OPT_IN
OPT_OUT</td></tr>
<tr><td>data</td><td colspan="3">Events have the following data items within the <data> element:

<table>
<tr><th>Element name</th><th>Data type</th><th colspan="2">Description</th></tr>
<tr><td>userId</td><td>32-bit Integer</td><td colspan="2">The unique ID of the user that generated the event</td></tr>
<tr><td>Networked</td><td>String</td><td colspan="2">Network ID for this user</td></tr>
<tr><td>Ref</td><td>String</td><td colspan="2">The source of the opt-in/out :</td></tr>
<tr><td></td><td></td><td>Go</td><td>User opted in/out during payment flow.</td></tr>
<tr><td></td><td></td><td>STOP</td><td>User opted out via STOP message.</td></tr>
<tr><td></td><td></td><td>MarketingPrefs</td><td>User opted in/out via bango.net marketing preferences.</td></tr>
<tr><td></td><td></td><td>UserInfoWS</td><td>Opt in/out performed via the User Information Web Service.</td></tr>
<tr><td></td><td></td><td>Admin</td><td>Opt in/out performed by Bango Customer Services</td></tr>
<tr><td>Reason</td><td>String</td><td colspan="2">The reason supplied if the opt in occurred by invoking the opt in web service.</td></tr>
</table>

An example <data> element:

<pre>
<data>
      <item name=”userId” value=”9568” />
      <item name=”networkId” value=”USA_SPRINT” />
</data>
</pre>
</td></tr>
</table>

Marketing Opt-in/out Actions

The actions supported by the MARKETING source are:

Action	OPT_IN
Description	User opted in to marketing material.
XML	<event> <id>2</id> <time>2008-05-28T14:16:01+00:00</time> <action>OPT_IN</action> <data> <item name=”userId” value=”9568” /> <item name=”networkId” value=”USA_SPRINT” /> <item name="ref" value="Go" /> </data> </event>

Action	OPT_OUT
Description	User opted out of marketing material.
XML	<event> <id>2</id> <time>2008-05-28T14:16:01+00:00</time> <action>OPT_OUT</action> <data> <item name=”userId” value=”9568” /> <item name=”networkId” value=”USA_ATT” /> <item name="ref" value="STOP" /> </data> </event>

Payment Events

To describe the schema used in events of source PAYMENT, please see the following table:

<table>
<tr><th>Element name</th><th>Data type</th><th>Description</th><th>Example</th></tr>
<tr><td>id</td><td>64-bit Integer</td><td>The unique identifier of this event</td><td>156278</td></tr>
<tr><td>time</td><td>String</td><td>String representation of the date and time, in the format:

YYYY-MM-DDTHH:MM:SS+HH:MM

+HH:MM indicates the time relative to UTC.</td><td>2008-05-28T14:16:00+00:00</td></tr>
<tr><td>action</td><td>String</td><td colspan="2">PAYMENT User has made a payment</td></tr>
<tr><td>data</td><td colspan="3">Events have the following data items within the <data> element:

<table>
<tr><th>Element name</th><th>Data type</th><th>Mandatory</th><th>Description</th></tr>
<tr><td>userId</td><td>32-bit Integer</td><td>Yes</td><td>The unique ID of the user that generated the event</td></tr>
<tr><td>status</td><td>String</td><td>Yes</td><td>The status of the payment</td></tr>
<tr><td>bango</td><td>String</td><td>Yes</td><td>The Bango number that was used to initiate the payment</td></tr>
<tr><td>paymentAmount</td><td>32-bit Integer</td><td>Yes</td><td>The amount that the user has been charged in your package currency</td></tr>
<tr><td>paymentCurrency</td><td>String</td><td>Yes</td><td>Your package currency</td></tr>
<tr><td>paymentEarnings</td><td>Decimal</td><td>Yes</td><td>The amount that you earned from the payment</td></tr>
<tr><td>paymentSourceType</td><td>String</td><td>Yes</td><td>The payment source type from which payment was made (OPERATOR, PSMS, CARD or INTERNET)</td></tr>
<tr><td>transId</td><td>64-bit Integer</td><td>Yes</td><td>The Bango transaction ID</td></tr>
<tr><td>subscriptionId</td><td>32-bit Integer</td><td>Conditional**</td><td>The ID of the subscription that the payment relates to</td></tr>
<tr><td>timePeriod</td><td>String</td><td>Conditional***</td><td>The time period in minutes that the content will be available to the user for</td></tr>
<tr><td>timePeriodStatus</td><td>String</td><td>Conditional***</td><td>INVALID_FOR_BANGO_NUMBER
TOO_HIGH
OK</td></tr>
<tr><td>numberOfAccesses</td><td>String</td><td>Conditional****</td><td>The number of times that the content can be accessed by the user</td></tr>
</table>
</td></tr>
</table>

numberOfAccesses Status	String	Conditional****	INVALID_FOR_BANGO_NUMBER TOO_HIGH OK
identityNetwork	String	Conditional*	The network that we receive the users identity from
identityRegion	String	Conditional*	The region of the network we receive the users identity from
connectionNetwork	String	Conditional*	The network that the user was connected to when paying
connectionRegion	String	Conditional*	The region of the network that the user was connected to when paying
passthroughParameter	String	Conditional*	The custom relay parameter, if used for relay.

**** Only if the Bango number is a 'per access' access model and is Relay enabled
*** Only if the Bango number is a 'timed' or 'subscription' access model and is Relay enabled
** Only if the Bango number is a 'subscription' access model and is Relay enabled
* Only if the Bango number is Relay enabled and the payment is browser based

An example <data> element:

```
<data>
	<item name="userId" value="9568" />
	<item name="status" value="OK" />
	<item name="bango" value="7424" />
	<item name="paymentAmount" value="50" />
	<item name="paymentCurrency" value="50" />
	<item name="paymentEarnings" value="45" />
	<item name="paymentSourceType" value="OPERATOR" />
	<item name="transId" value="9568" />
</data>
```

Payment Actions

The actions supported by the PAYMENT source are:

Action	PAYMENT
Description	User has made a payment.
XML	<event> <id>2</id> <time>2008-05-28T14:16:01+00:00</time> <action>PAYMENT</action> <data> <item name="userId" value="9568" /> <item name="status" value="OK" /> <item name="bango" value="7424" /> <item name="paymentAmount" value="50" /> <item name="paymentCurrency" value="50" /> <item name="paymentEarnings" value="45" /> <item name="paymentSourceType" value="OPERATOR" /> <item name="transId" value="9568" /> </data> </event>

Mobile Identity Events

To describe the schema used in events of source MOBILEIDENTITY, please see the following table:

<table>
<tr><th>Element name</th><th>Data type</th><th>Description</th><th>Example</th></tr>
<tr><td>id</td><td>64-bit Integer</td><td>The unique identifier of this event</td><td>156278</td></tr>
<tr><td>time</td><td>String</td><td>String representation of the date and time, in the format:

YYYY-MM-DDTHH:MM:SS+HH:MM

+HH:MM indicates the time relative to UTC.</td><td>2008-05-28T14:16:00+00:00</td></tr>
<tr><td>action</td><td>String</td><td colspan="2">MOBILEIDENTITY Text message received for mobile identity</td></tr>
<tr><td>data</td><td colspan="3">Events have the following data items within the <data> element:

<table>
<tr><th>Element name</th><th>Data type</th><th>Mandatory</th><th>Description</th></tr>
<tr><td>identityCode</td><td>String</td><td>Yes</td><td>The identity code sent to the shortcode</td></tr>
<tr><td>userId</td><td>32-bit Integer</td><td>Yes</td><td>The unique ID of the user that generated the event</td></tr>
<tr><td>mobileNumber</td><td>String</td><td>Yes</td><td>The mobile number of the user that sent the text message</td></tr>
<tr><td>networkId</td><td>String</td><td>Yes</td><td>The network ID of the user that sent the text message</td></tr>
<tr><td>p</td><td>String</td><td>No</td><td>The optional custom parameter you sent to Bango when requesting an identity code</td></tr>
</table>

An example <data> element:

<pre>
<data>
	<item name=”identityCode” value=”5F9F3E4E” />
	<item name=”userId” value=”12345” />
	<item name=”mobileNumber” value=”447787987654” />
	<item name=”networkId” value=”GBR_VODAFONE” />
	<item name=”p” value=”my+custom+parameter” />
</data>
</pre>
</td></tr>
</table>

Mobile Identity Actions

The actions supported by the MOBILEIDENTITY source are:

Action	TEXT_RECEIVED
Description	User has sent an identity code text message to a Bango shortcode, revealing their mobile number and operator.
XML	<event> <id>2</id> <time>2008-05-28T14:16:01+00:00</time> <action>TEXT_RECEIVED</action> <data> <item name="identityCode" value="5F9F3E4E" /> <item name="userId" value="12345" /> <item name="mobileNumber" value="447787987654" /> <item name="networkId" value="GBR_VODAFONE" /> <item name="p" value="my custom parameter" /> </data> </event>

Page Tracking Events

To describe the schema used in events of source PAGETRACKING, please see the following table:

<table>
<tr><th>Element name</th><th>Data type</th><th>Description</th><th>Example</th></tr>
<tr><td>id</td><td>64-bit Integer</td><td>The unique identifier of this event</td><td>156278</td></tr>
<tr><td>time</td><td>String</td><td>String representation of the date and time, in the format:

YYYY-MM-DDTHH:MM:SS+HH:MM

+HH:MM indicates the time relative to UTC.</td><td>2008-05-28T14:16:00+00:00</td></tr>
<tr><td>action</td><td>String</td><td colspan="2">PAGETRACKING Page tracking image requested by client browser</td></tr>
<tr><td>data</td><td colspan="3">Events have the following data items within the <data> element:

<table>
<tr><th>Element name</th><th>Data type</th><th>Mandatory</th><th>Description</th></tr>
<tr><td>userId</td><td>32-bit Integer</td><td>No</td><td>The unique ID of the user that generated the event (zero if no persistent identity available)</td></tr>
<tr><td>trackingUserId</td><td>64-bit integer</td><td>No</td><td>The unique tracking ID of the user that generated the event (if sending tracking IDs has been enabled)</td></tr>
<tr><td>bango</td><td>String</td><td>Yes</td><td>Bango Number involved</td></tr>
<tr><td>networkId</td><td>String</td><td>No</td><td>The identity operator of this user</td></tr>
<tr><td>country</td><td>String</td><td>No</td><td>Country of identity operator</td></tr>
<tr><td>connectionNetworkId</td><td>String</td><td>No</td><td>The operator this user is currently connected via</td></tr>
<tr><td>connectionCountry</td><td>String</td><td>No</td><td>Country of connection operator</td></tr>
<tr><td>p</td><td>String</td><td>No</td><td>Optional custom parameter</td></tr>
</table>

An example <data> element:

<pre>
<data>
	<item name=”userId” value=”0” />
	<item name=”trackingUserId” value=”12345678901234” />
	<item name=”bango” value=”785342” />
	<item name=”networkId” value=”USA_SPRINT” />
	<item name=”country” value=”USA” />
	<item name=”connectionNetworkId” value=”USA_ROADRUNNER” />
</pre>
</td></tr>
</table>

```
        <item name="connectionCountry" value="USA" />
        <item name="p" value="my custom parameter" />
</data>
```

Page Tracking Actions

The actions supported by the PAGETRACKING source are:

Action	PAGETRACKING
Description	User has requested a page tracking image URL for a Bango Number with PAGETRACKING events enabled.
XML	<event> <id>2</id> <time>2008-05-28T14:16:01+00:00</time> <action>PAGETRACKING</action> <data> <item name="userId" value="0" /> <item name="trackingUserId" value="12345678901234" /> <item name="bango" value="785342" /> <item name="networkId" value="USA_SPRINT" /> <item name="country" value="USA" /> <item name="connectionNetworkId" value="USA_ROADRUNNER" /> <item name="connectionCountry" value="USA" /> <item name="p" value="my custom parameter" /> </data> </event>