



Technical Specification WAP Billing

(WB.001)

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Table of contents

1. Terminology	3
2. In a nutshell... ..	4
3. Initial call: one-off payment or subscription sign up	5
3.1 Request	5
3.2 Response	6
4. Interaction with end-user.....	7
5. Request payment or sign up status (pull).....	9
6. Using notifications (push)	11
7. Sending follow-up payments to members	12
7.1 Request	12
7.2 Response	12
7.3 When status is known	12
8. Specific issues regarding SMS payments.....	14
8.1 Budget	14
8.2 Plus	14



1. Terminology

WAP Billing

The process of charging money on the mobile internet from an end-user, which can be in the form of a subscription or "one off".

WAP push message

An SMS that contains an URL to a WAP/mobile website. Instead of a normal text message, the end-user gets a confirmation screen for visiting the website. When the user confirms, a connection to the site will be made automatically.

Payment

One single billing moment where the end-user is charged for the entire amount or a portion (based on operator tariffs) multiple times.

Transaction

A transaction consists of one or more payments:

- In a one-off payment there is one payment per transaction.
- In a subscription, multiple recurring payments make for one transaction. The transaction starts at the moment of signup and ends when the user signs off.

Code of Conduct

The Code of Conduct or "Gedragscode voor Betaalde mobiele diensten" (in Dutch) applies to all WAP billing services and promotional activities. The Code of Conduct can be downloaded from:

<http://www.openmobielinternet.com/wp-content/uploads/2008/04/Gedragscode-voor-Betaalde-Mob-dienst-finaal-concept-17-maart-2009.pdf>

Each country supported by TargetSMS has its own (self-)regulation with which your service must comply.

"Real" content billing

With "real" content billing we mean charging a specific amount with a single click. This means that we can charge money from end-users in the background without the need to send a Premium SMS. From the end-users perspective this is by far the most convenient way to pay on the mobile internet and also leads to an optimal ROI.

SMS content billing

Not all operators support "real" content billing. However, this doesn't mean that these end-users cannot be billed. Premium SMS will be used instead as a payment method.

2. In a nutshell...

This document describes how to connect to the WAP billing gateway of TargetPay. The transaction process in a nutshell:

1. The end-user opts for a payment, for example by selecting a ringtone from a WAP ringtone shop.
2. Your application makes an initial call to TargetPay to set all transaction details like the amount due, frequency (non-subscription, daily, weekly, etc.) and return URL. TargetPay will give you a unique link where you can forward the end-user to.
See section 3.
3. The end-user completes the payment or confirms the signup.
4. The end-user is forwarded to the return URL. On the return URL you can make a call to TargetPay to check if the signup or payment was indeed completed successfully (pull). See section 5.

In case of a subscription service you can thereafter send requests to TargetPay in order to make following payments. Optionally you can request the WAP billing gateway to inform you about all status changes, like a sign off.



3. Initial call: one-off payment or subscription sign up

In order to start a new transaction (that is an one-off payment or the start of a subscription), you need to call this URL with a HTTP GET or POST:

3.1 Request

<https://www.targetpay.com/wap/start.php5>

With the following parameters:

service	The ID of your service.										
ip	The IP address of the end-user										
description*	Description of your service (max. 255 chars)										
amount*	Amount to be charged in eurocents, e.g. 100 = € 1,-										
frequency*	Frequency, which can be either: <table><tr><td>nonsubscription</td><td>Not a subscription / one-off payment</td></tr><tr><td>day</td><td>Per day</td></tr><tr><td>week</td><td>Per week</td></tr><tr><td>biweek</td><td>Per 2 weeks</td></tr><tr><td>month</td><td>Per month</td></tr></table>	nonsubscription	Not a subscription / one-off payment	day	Per day	week	Per week	biweek	Per 2 weeks	month	Per month
nonsubscription	Not a subscription / one-off payment										
day	Per day										
week	Per week										
biweek	Per 2 weeks										
month	Per month										
returnurl*	The URL to which we redirect the end-user after paying or signing up.										
notifyurl*	(Optional) give a URL where we need to push updates of the transaction to, like wether it has been succesfully processed, confirmed or signed off. See section 6										
contentid*	If you enabled the content mandatory in your service you were allowed to send extra information like an contentid or affiliate number.										

*: These parameters are optional. If omitted they will be copied from the service settings. The bare parameters you need to use the start.php5 page are simply the ID of your service and the IP of the end-user.



Note: you need to urlencode all parameters. See the following example:

```
https://www.targetpay.com/wap/start.php5?service=1&rtlo=1&description=Test+bestelling&ip=12.34.56.78&amount=150&frequency=week&returnurl=http%3A%2F%2Fwww.mysite.nl%2F%return.php &notifyurl=http%3A%2F%2Fwww.mysite.nl%2F%notify.php
```

3.2 Response

The response will be either an error code (WBxxx), like: *WB011 No rtloff found for rtloff*

or if successful:

```
000000 transactionID|paymentURL
```

for example:

```
000000 61|http://www.targetpay.mobi/?trxid=61
```

Actions to undertake:

- Store the transaction ID for later use!
- If a mobile telephone number is already known to you, you can append this to the orderscreen link returned by calling start.php5. This parameter is called "tn" and must be 10 digits. This way, if the user has to use the SMS variant they will not have to type in their phone number, which is more user friendly. Example:
http://www.targetpay.mobi/?trxid=61&tn=0612345678
- Redirect the enduser to the payment URL

4. Interaction with end-user

The end-user can now confirm the payment or subscription. A screen is displayed depending on whether a non-subscription or a subscription service is invoked respectively:

Naam van de Dienst, merknaam of de naam van de Mobiel Internet dienstverlener	← ①
Enmalige betaling voor:	← ②
Naam van de Dienst, tarief(EUR of € 6,00)	← ③
Naam Content Provider	← ④
Klik op "Akkoord" om de betaling te bevestigen. Dit betekent tevens dat u akkoord gaat met de (privacy) voorwaarden.	← ⑤
<input type="button" value="Akkoord"/>	
<input type="button" value="Annuleren"/>	
<input type="checkbox"/> Ja, ik wil graag informatie ontvangen van geselecteerde partners.	← ⑥
(privacy) voorwaarden	← ⑦
Help	← ⑧
Terug	← ⑨

Non-subscription layout (see page 12 of the Code of Conduct)



Naam van de Dienst, merknaam of de naam van de Mobiel Internet dienstverlener	← ①
Abonnement voor:	← ②
Naam van de Dienst, tarief(EUR, € 6,00)	← ③
Frequentie en looptijd	← ④
Naam Content Provider	← ⑤
Klik op "Akkoord"om de betaling te bevestigen. Dit betekent tevens dat u akkoord gaat met de (privacy) voorwaarden. <input type="button" value="Akkoord"/> <input type="button" value="Annuleren"/>	← ⑥
<input type="checkbox"/> Ja, ik wil graag informatie ontvangen van geselecteerde partners.	← ⑦
(privacy) voorwaarden	← ⑧
Help	← ⑨
Terug	← ⑩

Subscription layout (see page 14 of the Code of Conduct)

The layout of these pages can be altered using the layout editor in TargetPay. Like:

- Change of font/color
- Displayed logo
- Whether or not to include an opt-in link for newsletters
- etc.

When the end-user confirms the payment, his payment will be completed automatically when "real" content billing is used (currently supported by KPN, Tele2 and Vodafone). For other operators the payment will be handled by SMS, which involves some more user interaction. This is described in-depth in section section 7.



5. Request payment or sign up status (pull)

When the end-user completed the payment or signup, he will be redirected to the *return URL*. The transaction ID and a unique user id will be appended to the return URL you gave. E.g.:

<http://www.mysite.nl/returnurl.php?trxid=1651556156&unique=23ASEF342>

At this return URL and using this trxid you can check the status of the transaction. The unique could be used for own purposes. Maybe you have a system wich is already build but this system needs a variable like phonenumber, than you can use this number.

Example how to check a status of a payment:

Make a HTTP GET or POST call to:

<https://www.targetpay.com/wap/checktransaction.php5>

With the parameters:

rtlo	The layoutcode/subaccount
trxid	The transaction ID (see section 3)
once	Set this parameter to 1 when you only want to receive an OK status the first time you check, and thereafter a: <i>WR999 Already checked</i> status. When you set once to 0, then TargetPay will return OK no matter how many times you asked for the status.

Example:

<https://www.targetpay.com/wap/checktransaction.php5?rtlo=12345&trxid=1651556156&once=1>

The response will be a 5-digit response code followed by a space and a textual representation of the status. When the transaction was completed succesfully, the responsecode is:

00000 OK

This means that the user has succesfully signed up for the subscription service or has completed the one-off payment.

In case of an error, one of the following resultcodes is returned:

WR001 Transaction not processed yet, try again later
WR002 Transaction cancelled by user
WR003 Transaction expired (not paid in 1 hour)
WR004 Technical fault at TargetPay
WR005 Payment refused by operator: credit related
WR006 Payment refused by operator: technical fault at operator
WR007 Payment refused by operator: user unknown
WR008 Payment refused by operator: user blocked/blacklisted
WR020 No layoutcode



- WR021 No transaction ID*
- WR022 No transaction with this ID*
- WR023 Layoutcode doesn't match transaction*
- WR024 Still processing. Partial: <partial payment> / <total price>*
- WR999 Already checked*

WR024 is of particular interest, as it indicates that the user has made a partial payment of the total product cost. This can be due to a variety of causes, like the user having enough money for the first portion of the payment but not the remaining. It can also mean that the payment is delayed, or that the unpaid portion was a failed payment. This status code allows you to decide for yourself what you want to do with the customer and his partial payment.

Note that the meaning of each errorcode (first 5 digits) will remain the same, but the texts after that may be subject to change.

Aside from using checktransaction.php5 to see the status of a transaction, it is also possible to pull the payment status information from another script. This is mainly intended to validate whether a followup payment has succeeded or not. Make a HTTP GET or POST call to:

<http://www.targetpay.com/wap/checkpayment.php5>

With the parameters:

- rtlo The layoutcode/subaccount
- paymentid The payment batch identifier that is returned when a followup payment has been created (see section 7).

Example:

<https://www.targetpay.com/wap/checkpayment.php5?rtlo=12345&paymentid=123713>

The response (if the call was correct and the records exist), will be in the following format:

<#succesful> | <#still open> | <#failed> / <#total>

Example:

2|0|0/2

The above example would mean that the original payment was broken into 2 payments (this happens depending on payment tariffs per operator) and that both of the payments were succesful.

In case of an error, one of the following resultcodes is returned:

- WR020 No layoutcode*
- WR023 Layoutcode doesn't match transaction*
- WR025 No paymentid*
- WR026 No payments with this paymentid*
- WR027 No transaction associated with this / these payment(s)*



6. Using notifications (push)

Instead of requesting the status for the transaction you can also specify a notification URL when the transaction starts. When the status of the transaction changes we'll call this URL to notify you of this change.

We will call the notify URL, for example:

<http://<notifyURL>/?trxid=1651556156&status=fail&reason=WR002+Transaction+canceled+by+user&unique=23ASEF342>

<http://<notifyURL>/?trxid=1651556156&status=confirmed&reason=00000+OK&unique=23ASEF342>

Parameters:

status	Can be one of the following: confirmed Subscription is active. Followup payments are allowed. processing One time payment is now being processed. closed The one time payment was successfully completed, or the subscription was closed. fail The transaction failed; for example, there was no credit. open The user has confirmed their payment or subscription via the TargetPay.mobi orderscreen. start A new transaction for a one time payment or subscription has been made, but the user has not confirmed it yet via the TargetPay.mobi orderscreen.
reason	A more detailed reason (WRxxx code), conform the list of resultcodes in section 5.
unique	This will be a unique userID so you can identify your customer

Please respond with and only with the text:

45000

If not, 3 more attempts will be made to call the notify URL. 1 attempt every minute.

Take note that the notification URL will never be called with the partial payment status, which is only available by "pull".



7. Sending follow-up payments to members

When you have started a subscription service you will want to charge the end-user more than once after the signup.

7.1 Request

To initiate a follow-up payment, call this URL:

<http://www.targetpay.com/wap/followup.php5>

With the following parameters:

trxid	The transaction ID. You received this parameter when the signup was completed succesfully.
service	The ID of your service (for security)
rtlo	Layoutcode (for security)
description	Description of the payment (max. 255 chars)
amount	Amount to be charged in eurocents, e.g. 100 = € 1,-. Naturally, this has to lie within the limit that is defined in the subscription transaction per frequency, which receives it's limit from your original service. The followup script will reject your followup payment if it exceeds the amount that can be charged this frequency.
pnotifyurl*	Enter the URL we should call as soon as we know the status this follow-up payment (optional). See section 5 for more information on status pull.

* the pnotifyurl is optional.

Example:

http://www.targetpay.com/wap/followup.php5?trxid=1651556156&service=1&rtlo=1&description=Your+subscription+has+been+extended+for+another+week&amount=10&pnotifyurl= http%3A%2F%2Fwww.mysite.nl%2F%2Fpnotifyurl.ph

7.2 Response

The response will be either an error code (like: *WB011 No rtaff found for rtlo*) or if succesful: 00000 + <paymentid>

For example:

00000 32094898

Actions to undertake:

- Store the paymentid! This is the payment batch identifier that you can use to pull payment status information (see section 5).

7.3 When status is known

As soon as the status is known, the *pnotifyurl* URL will be called with, for example:

http://<pnotifyURL>/?trxid=1651556156&pid=25732&paymentid=25732&status=fail&reason= WR005+Payment+refused+by+operator:+credit+related



Parameters:

trxid	The transaction ID (which also is the memberid)
pid	Unique payment identifier.
paymentid	Non-unique payment batch identifier. While the <i>pid</i> represents a portion of the total amount for which you issued a billing request, these portions are grouped together by the <i>paymentid</i> , which is always the same as the first <i>pid</i> of the payment batch. An example would be: You bill the customer for an <i>amount</i> of 150. The WAP Billing API then checks the tariffs for that specific operator and breaks the payment into 100 and 50. If the <i>pid</i> 's would be 12345 and 12346 or these respective payments, the <i>paymentid</i> would be 12345 for both. In your own system and administration you can opt to log all the <i>pid</i> 's or simply the <i>paymentid</i> , but do note that every <i>pid</i> has a status and it is in theory possible that 1 payment will succeed and 1 payment will fail.
reason	A more detailed reason (WRxxx code), conform the list of resultcodes in section 5.

Please respond with and only with the text:

45000

If not, 3 more attempts will be made to call the *notifyurl*. 1 attempt every minute.



8. Specific issues regarding SMS payments

As mentioned above, not all operators support “real” content billing yet. In these cases the payment can be made by Premium SMS. You can choose between 2 methods:

- budget
- plus

8.1 Budget

The “budget” method works as follows:

- The end-user fills in his phone number (this field can be automatically filled, see section 3.2)
- The customer is then asked to send WAP* to 3010 to confirm the payment or subscription.
- After sending the keyword, a link or WAP push (depending on what the handset supports) to the Return URL will be send back.

Note that with this method the end-user must exit the WAP browser and send an SMS himself. We will display a link to “sms:3010?body=WAP” and ask the end-user to click on that link. This should direct the user to his SMS composer. However, in most cases this doesn’t work.

8.2 Plus

The “plus” method works as follows:

- The end-user fills in his phone number (this field can be automatically filled, see section 3.2)
- An SMS is sent to the end-user originating from the 3010 shortcode requesting him to reply with the keyword WAP*
- After sending the keyword, a link or WAP push (depending on what the handset supports) to the Return URL will be send back.

Note that with this method the end-user doesn’t have to leave the WAP browser himself. He’ll get an SMS message (probably in front of the WAP browser). This makes it easier to reply. The downside is that sending the free SMS messages cost you 7 cents each. This option has to be turned on by TargetPay before you can use it.

*: “WAP” and 3010 are defaults. This can also be your own keyword/shortcode. For subscriptions the keyword must be “OK”