



B4B Payments
TPP Web Services API

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1 Document Version

Version	Date	Author	Description
1.0	14/6/19	RA	New document extracted from internal web services document

2 Document Purpose

This document is intended to document the web services provided by B4B to third party providers (TPPs) under the Payment Services Directive 2 (PSD2).

Note that, as a corporate services provider, B4B Payments operates a rich API with a wide variety of features in addition to those required by PSD2. If a TPP is acting on behalf of one of our corporate clients, these APIs can be made available at the request of the client.

If the TPP is seeking access to an individual's cardholder data, the web services documented here satisfy the requirements of an Account Services Information Provider (AISP) under PSD2.

Note: B4B Payments provides no outbound payment services other than from our prepaid cards. No outbound payments can be initiated directly from our UI, and we therefore do not provide functionality to Payment Initiation Service Providers (PISPs) under PSD2.

3 Web Services Overview

3.1 Introduction

B4B web services are accessed using a RESTful methodology (see http://en.wikipedia.org/wiki/Representational_state_transfer). Resources are exposed via a url which identifies the resource, and acted upon depending on the HTTP verb employed. HTTP verbs and their meanings as implemented by B4B are mapped to the traditional CRUD actions as follows:

3.1.1 HTTP Verbs

Verb	CRUD Action	Meaning
POST	CREATE	Create a new instance of the named resource using the contents of the attached xml
GET	READ	Retrieve an xml representation of the resource(s)
PUT	UPDATE	Update the named resource using the supplied xml fields and values
DELETE	DESTROY	Destroy the named resource

All B4B web services are accessed via the appropriate HTTP verb, as described in the service descriptions in this document. The services will respond with an HTTP response code as detailed below, with any xml in the response body.

3.1.2 HTTP response codes

The full list of HTTP response codes and their meanings are specified here: <http://www.w3.org/Protocols/rfc2616/rfc2616-sec10.html>

B4B currently implement the following:

Status Code	Meaning	Description
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200	OK	The service is responding correctly. The response body will contain the appropriate response xml for the service, as detailed below.
400	Bad request	The supplied data is invalid. The response body will contain a <message> block with a description of the error
401	Not authorized	The supplied credentials are not accepted (see authentication below)
404	Not found	The requested resource does not exist – eg a request to retrieve a non-existent card
500	System error	The service is unavailable

3.1.3 Request formats

Data submitted via an HTTP GET or DELETE request is encoded in the url eg

GET domain:port/services/card/1234123412341234?some_field=some_value

3.2 Authorisation and security

The following security measures are required:

- All services are accessible only via https. Unencrypted http requests will result in a redirect to the https protocol
- All services will respond only to requests originating from whitelist IP addresses supplied by the client
- All service requests must be authenticated with HTTP Basic Authentication (<http://www.ietf.org/rfc/rfc2617.txt>). User names and passwords will be supplied by B4B.

3.3 Accessing the services

The services may be accessed on the following URLs:

Environment	Product	URL
Staging	B4B Payments	<a href="https://staging.paymentcardsolutions.co.uk/services/bread4businessportal/<service_name>">https://staging.paymentcardsolutions.co.uk/services/bread4businessportal/<service_name>
Staging	Bread4Scrap	<a href="https://staging.paymentcardsolutions.co.uk/services/bread4scrapportal/<service_name>">https://staging.paymentcardsolutions.co.uk/services/bread4scrapportal/<service_name>
Production	B4B Payments	<a href="https://www.b4bpayments.com/services/bread4businessportal/<service_name>">https://www.b4bpayments.com/services/bread4businessportal/<service_name>

Production	Bread4Scrap	<a href="https://www.bread4scrap.com/services/bread4scrapportal/<service_name>">https://www.bread4scrap.com/services/bread4scrapportal/<service_name>

3.4 Abbreviations

The following abbreviations are used in the tables below:

Abbreviation	Meaning
A	Alphanumeric
N	Numeric
D	Decimal
Da	Date in the format YYYY-MM-DD (10 chars)
T	Time in the format YYYY-MM-DD-HH:MM:SS
B	Boolean value 'true' indicates truth, 'false' or nil indicate false
XML	Data in xml format – a sub-block
M	Mandatory
O	Optional
C	Conditional
Any number	The length of the field – eg N16 = 16 digit numeric

4 B4B Web Services APIs

1.1 Card Statement

This web service returns the transaction history for a given prepaid card ID. The service returns all transactions for a given month.

URL: /services/statement/

HTTP verb: GET

1.1.1 Request

Field	Format	Required	Description
user_id	N	M	The unique user (ie customer) number which B4B supply and Client store for each new customer
card_id	N9	M	The unique number assigned to this prepaid card – functionally equivalent to the PAN number but with no PCI sensitivity. The card must belong to the user
month	N	M	The month 1-12
year	N	M	The year YYYY
authorisations	B	O	If set, the returned data will include any pending authorisations (see below)

1.1.2 Response

A <statement> block containing a <statement_lines> block with <statement_line> blocks as follows. Additionally, if the <authorisations> boolean is set to true, any pending authorisations will be returned in a <auth_lines> block containing statement_line blocks in the same format.

Field	Format	Required	Description
transaction_reference	AN	M	Unique transaction reference
description	AN	M	The item description to be shown to the customer
date	D	M	The settlement date
pos_date	D	C	The POS terminal date (only present for POS spend transactions)
sign	AN1	M	Debit or credit. Possible values: <ul style="list-style-type: none">• dr• cr where dr is a withdrawal and cr is a deposit
amount_in_card_currency	D	M	Transaction value in card currency

fee_in_card_currency	D	C	Present if (a) transaction fees apply to the program and (b) transaction fees are not shown as separate line items.
card_currency	AN3	M	The ISO currency code for the card currency
amount_in_transaction_currency	D	M	Transaction value in transaction currency
transaction_currency	AN3	M	The ISO currency code for the transaction currency
exchange_rate	D	M	The exchange rate used to convert from the transaction currency to the card currency
balance	D	M	The new card transaction balance following the transaction
mcc_code	N4	C	The merchant category code for the transaction. Only relevant for POS debits
mcc_description	AN	C	Merchant category code description

1.1.3 Example

1.1.3.1 Request

GET

https://domain:port/services/statement?user_id=12345&card_id=1234123412341234&month=11&year=2013

1.1.3.2 Response 200 OK

```
<?xml version="1.0" encoding="UTF-8"?>
<statement>
  <statement_lines type="array">
    <statement_line>
      <transaction_reference>12345</transaction_reference>
      <description>test credit transaction</description>
      <date>2014-11-13</date>
      <sign>cr</sign>
      <amount_in_card_currency>100.00</amount_in_card_currency>
      <card_currency>GBP</card_currency>
      <amount_in_transaction_currency>200.00</amount_in_transaction_currency>
      <transaction_currency>INR</transaction_currency>
      <exchange_rate>2</exchange_rate>
    </statement_line>
  </statement_lines>
</statement>
```

```

    <balance>250.00</balance>
  </statement_line>
  <statement_line>
    <transaction_reference>12345</transaction_reference>
    <description>test debit transaction</description>
    <date>2014-11-13</date>
    <sign>dr</sign>
    <amount_in_card_currency>100.00</amount_in_card_currency>
    <card_currency>GBP</card_currency>
    <amount_in_transaction_currency>200.00</amount_in_transaction_currency>
    <transaction_currency>INR</transaction_currency>
    <exchange_rate>2</exchange_rate>
    <balance>150.00</balance>
  </statement_line>
</statement_lines>
</statement>

```

5 Error Handling

Error messages may be provided in the event of a service returning a 400 Bad Request or 404 Not Found error. If they are present they will appear in a block named for the requested resource eg <user>

See individual services for example usage.

An <errors> block contains 0 or more <error> blocks as follows:

Field	Format	Required	Description
field	AN	O	<p>If the error applies to a particular field, the field name may be supplied. If this is the case then it may be appropriate to display the error to the customer next to the field in question.</p> <p>A field name 'base' indicates that the error applies to the resource as a whole, and should be displayed to the customer appropriately – eg at the top of the page.</p>
message	AN	M	Error message (suitable for display to the customer if a field has been provided)

