



# **Pasat Internet 4B**

## **Merchant interfaces**

English Summary



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## 1 Introduction

Pasat Internet is the Sistema 4B's platform to habilitate the Internet merchants to accept card payments.

Pasat Internet provide the merchant not only with the functionality of processing payment but also with a web administration tool that provides queries, files, statistics about processed transactions, make manual payments and refunds, and to set up configuration issues, all through a web based application with user/password access.

## 2 Integration description

Pasat Internet is a tool for merchants who sell by Internet. It is a centralized POS (Point of Sale resident at Sistema 4B servers) that is called by merchant servers in order to achieve a payment transaction.

There are two integration ways (interfaces):

- **Web Standard:** It is implemented by the most of our web merchants. The customer is redirected to the payment page (served by Sistema 4B web server) at the only moment of the payment. Thus the payment form asking for the card number and expiry date is showed to the user by Sistema 4B. The sensible and critical data of the cards is only managed by Sistema 4B, and the merchant have no responsibilities about possible hacker attacks to their databases, because the merchant do not have any card data in its systems. The payment page can be customized by the merchant and supports 3D Secure (Verified by Visa and MasterCard SecureCode) that makes possible to the merchant that a growing percentage of the transactions are protected against the typical chargeback in Internet "I did not do it" .
- **Direct communication (XML):** the merchant ask for the card details directly to the customer and then, it sends (in a different session) a https request to Sistema 4B, formatted in XML and containing the payment request and card details. In a synchronous mode, Pasat Internet 4B process the payment through the financial network and responds to the merchant request directly. In this way, the dialog between merchant and customer is always managed by the merchant, with Sistema 4B not participating in it. The merchant has the responsibility for custodging the cards data, encrypting the records, and preventig unauthorized access to the database (or not storing card details at all in their systems, that is the securest way). There is not Verified by Visa or MasterCard SecureCode option available in this case.

Pasat Internet allows a test period before going live (production), in order to check that the communication and the interface is correctly implemented.

## 3 Web Standard Integration

This method basically consist in redirecting the customer to the merchant payment page allocated in Sistema 4B, where the card details are requested and the payment is processed. Then the customer is returned to the merchant web site.



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Once the customer has filled the shopping cart, and provided other details of the purchase (name, destination, delivery...etc) it is time to pay. The merchant must include a sort of "pay" button that sends the user's browser to the payment page of Pasat Internet.

The payment process involves several steps:

### **3.1 Redirecting the user to the payment page:**

This step is achieved by sending a http: request to a specific URL (see below) of Sistema 4B, including two parameters via POST (the parameters order must be this, the names can vary) :

- **merchant:** merchant id. that is provided by Sistema 4B. Identifies the merchant accessing to Pasat Internet.
- **reference:** string (256 max. characters length) containing a free text assigned by the merchant to identify univocally the purchase. It can not be repeated in the same day for a approved payment.
- **language:** optional parameter. If merchant has several languages this parameter specifies to Pasat Internet what language should use for the payment page. Actually posible values are:

Language	Value
Spanish	es
Catalan	ca
English	en
French	fr
German	de

The destination URL is:

- for Testing: <https://tpv2.4b.es/simulador/teargral.exe>
- for Production: <https://tpv.4b.es/tpvv/teargral.exe>

### **3.2 Passing the shopping cart details to Pasat Internet 4B**

Once Pasat Internet has been called by the merchant at the first step, it sends a request to a merchant URL (that is set up at the Administration web tool) asking for the shopping cart details (mainly, to confirm the order number and to get the amount of the payment).

The merchant server will receive a http (or https) request with the following parameters:

- **order:** reference of the purchase.
- **store:** merchant id (provided by Sistema 4B)

Merchant server must respond with (plain text, using a new line for each parameter)

- **Total amount:** Format: MXXXNNN... where XXX is the ISO currency code (978, Euro) (978 para el euro), and NNN... is the amount. It must not contain neither decimal dots nor spaces or separators. This amount must be expressed multiplied



by 100, i.e. the last two digits mean the decimals. For example: 34,51 Euros → M9783451.

- **Number of items in the shopping cart:** used (in the past) to specify the number of products contained in the shopping cart. Actually can be set to 1.
- **Item description:** used (in the past) to specify each product (item) in the shopping cart. Actually can include only one general register. The fields are (one line per field):
  - Reference
  - Description
  - Quantity
  - Price: using same format described before for the purchase amount, but omitting the ISO currency code.

This four fields must be repeated the same times as have been indicated in the previous field (Number of items). The content of this registers is free and determined by the merchant.

**Example:**

```
HTTP-Version:HTTP/1.0
Content-Type:text/html

M9781200
1
A1345
Classic Novels Vol.1
1
1200
```

### **3.3 Payment form**

Once Pasat Internet has got the confirmation of the order and the purchase amount from the merchant server, it shows the payment page to the cardholder. The payment form include fields for the card number, expiry date and optionally (depending on the merchant configuration) the validation code (CVC2 or CVV2). Actually the field validation code is not available. The inclusion of validation code is actually being implemented (expected in production by 4<sup>th</sup> quarter 2004).

The 3D Secure protocols, Verified by Visa and Mastercard SecureCode are included in the payment page and will be activated if the card is enrolled in such services.



### **3.4 Payment Processing and result**

The transaction is processed and the result is showed to the user's browser. The results page (receipt page) can be a standard (not merchant customized) page allocated in Sistema 4B or a page from the merchant server (a merchant URL could be called by Pasat Internet to communicate the payment results and gets the receipt page).

This behavior is set up by the merchant using the administration tool.

### **3.5 Summary of URLs used for communication with the merchant server**

This URLs have to be configured by the merchant using the web administration tool (see Manual de Integración, Capítulo 5. Módulo de Configuración) :

- **URL que devuelve el desglose de la compra** (Shopping cart URL): merchant URL that is requested by Pasat Internet to get the shopping details (amount).
- **URL que graba el resultado en la BD del comercio (TRANSACCIONES AUTORIZADAS)**: merchant URL that is called by Pasat Internet to confirm to the merchant that a payment has been made with success.
- **URL que graba el resultado en la BD del comercio (TRANSACCIONES DENEGADAS)**: merchant URL that is called by Pasat Internet to confirm to the merchant that a payment has not been made (denied, example: insufficient funds, card not valid...etc).
- **URL de recibo (transacción aceptada)**: merchant URL that is called by Pasat Internet to get the receipt page when the payment has been done with success.
- **URL de recibo (transacción denegada)**: merchant URL that is called by Pasat Internet to get the receipt page when the payment has been denied.
- **URL de continuación posterior a la página de recibo**: Its the return point to the merchant site for the customer. Only used if the receipt page showed is the standard receipt page from Pasat Internet which includes a button that redirects the user to this URLs after the payment process.

### **3.6 Ways of communicating the transaction results to the merchant**

Two ways:

- Downloading a file at the end of the day containing the bath of succesfull transactions
- On-line communication to a merchant URL

#### **3.6.1 Downloading the bath file**

Each day, a batch transaction file is created at the Pasat Internet with the information for clearing and settlement. This file contains all the successful transactions done in a session and that will be funded at the merchant bank account.

This file is the best reference for the merchant in order to check the payments done.

File format:

- Header record
  - Merchant number



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- Batch number
- Batch Date (ddmmyyyy)
- Transaction records
  - Purchase reference
  - Transaction Amount
  - Transaction Currency code
  - Amount (funding currency)
  - ISO Currency code for funding merchant account
  - Authorization code
  - Transaction date (ddmmyyyy)
  - User
  - Transaction type
- Totals record (one per each currency used)
  - Currency code
  - Number of transactions
  - Total Amount
- Number of lines of the file (including this). This field only appears once, at the end of each file.

### **3.6.2 Real time communication to the merchant server (on-line)**

This functionality requires the merchant server to be ready to accept http (or https) connections with parameters that will inform about the payments results. The merchant software must manage this information to update the payment status of sales.

For each payment, Pasat Internet will send a http communication to the merchant server, including:

Description	Parameter Name	Content
Transaction result	result	0->Authorized transaction 1->Cancelled transaction 2->Denied transaction
Purchase reference	pszPurchorderNum	
Transaction Date	pszTxnDate	dd/mm/yy
Transaction type	tipotrans	SSL->standard transaction CES-> protected by Vefified by Visa/MasterCard SecureCode
Merchant id	store	(provided by Sistema 4B)

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<b>If the transaction result is "Authorized":</b>		
Authorization Code	PszApprovalCode	
Transaction Id.	pszTxnID	
<b>If transaction result is not "Authorized":</b>		
Error Code	coderror	
Error description	deserror	
<b>Hash of data (optional, must be activated by merchant configuration):</b>		
RSA Hash of all the parameters	MAC	Hash of the parameters sent.

The URLs that are called by Pasat Internet including this parameters are set up at the web administration tool (Módulo de Administración) and they are called: 'URL que graba el resultado en la BD (TRANSACCIÓN AUTORIZADA)' for authorized payments and 'URL que graba el resultado en la BD (TRANSACCIÓN DENEGADA)' for denied payments. These URLs could be the same one.

There is a option that enables Pasat Internet to send a email to the merchant when a payment have been processed correctly but it was imposible to communicate it to the merchant. This service have to be enabled by the merchant in the administration tool, and it is called "Servicio Supervisor de transacciones".

### **3.7 Receipt page provided by the merchant**

There is a option for the merchant to customize and show the receipt page by itself instead of the standard results page served by Pasat Internet to the customer when the transaction is processed.

In this mode, Pasat Internet redirect the customer browser to the URL that have been specified by the merchant in the administration tool.

The URL used will be the value of the fields: 'URL de recibo (TRANSACCION AUTORIZADA)' for authorized payments and 'URL de recibo (TRANSACCION DENEGADA)' for denied payments. Both can be the same URL.

The parameters passed to merchant server are the same as described before in section 3.6.2.





## 4 Direct connection to Pasat Internet (using XML)

This type of integration between merchant and Pasat Internet does not involve the customer navigation, since all communications happens on a different session, directly communication between merchant and Sistema 4B servers.

The merchant gets the payment data from the customer (card number, expiry date and optionally the validation code/CVV2/CVC2) and then opens a connection with Pasat Internet to request the payment process.

This process is synchronous, so the payment request will receive in the http response the result of the payment transaction.

There have been defined several XML messages that performs the main payment processing functions.

Previously, merchant must communicate to Sistema 4B the IP address from which the requesting messages will be sent.

Due to the dialog with the customer is always managed by the merchant server, this kind of integration does not provide 3D Secure protocols (Verified by Visa/MasterCard SecureCode).

### 4.1 XML messages

#### 4.1.1 DTD

```
<!--
*****
*****   DTD para Operaciones PPI
Versión 1.0
*****
*****-->

<!ELEMENT PPI.S4B
(PPI.S4B.Venta.Req |
 PPI.S4B.Venta.Res.OK |
 PPI.S4B.Venta.Res.KO |
 PPI.S4B.Devolucion.Req |
 PPI.S4B.Devolucion.Res.OK |
 PPI.S4B.Devolucion.Res.KO |
 PPI.S4B.Error)>

<!ELEMENT PPI.S4B.Venta.Req
(IdComercioPPI,
 Referencia,
```



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FechaHora,  
PAN,  
Importe,  
Moneda,  
FechaCaducidad,  
FormaPago?,  
Usuario?,  
PPI.S4B.Venta.Reg.hash)>

<!ELEMENT PPI.S4B.Venta.Res.OK  
(IdComercioPPI,  
Referencia,  
FechaHora,  
Importe,  
Moneda,  
CodAutorizacion,  
NivelSeguridad,  
IdCuadre,  
PPI.S4B.Venta.Res.hash.OK )>

<!ELEMENT PPI.S4B.Venta.Res.KO  
(IdComercioPPI,  
Referencia,  
FechaHora,  
ErrCode,  
DesErrCode,  
PPI.S4B.Venta.Res.hash.KO )>

<!ELEMENT PPI.S4B.Devolucion.Reg  
(IdComercioPPI,  
Referencia,  
FechaHora,  
FechaVenta,  
Importe,  
Moneda,  
Usuario?,



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PPI.S4B.Devolucion.Req.hash)>

```
<!ELEMENT PPI.S4B. Devolucion.Res.OK
(IdComercioPPI,
Referencia,
FechaHora,
Importe,
Moneda,
CodAutorizacion,
IdCuadre,
PPI.S4B.Devolucion.Res.hash.OK)>
```

```
<!ELEMENT PPI.S4B.Devolucion.Res.KO
(IdComercioPPI,
Referencia,
FechaHora,
ErrCode,
DesErrCode,
PPI.S4B.Devolucion.Res.hash.KO )>
```

```
<!ELEMENT PPI.S4B.Error
(ErrCode,
DesErrCode,
PPI.S4B.Error.hash)>
```

```
<!ELEMENT IdComercioPPI      (#PCDATA)>
<!ELEMENT Referencia        (#PCDATA)>
<!ELEMENT FechaHora         (#PCDATA)>
<!ELEMENT PAN                (#PCDATA)>
<!ELEMENT FechaCaducidad    (#PCDATA)>
<!ELEMENT Importe            (#PCDATA)>
<!ELEMENT Moneda             (#PCDATA)>
<!ELEMENT FormaPago          (#PCDATA)>
<!ELEMENT IdCuadre           (#PCDATA)>
<!ELEMENT ErrCode            (#PCDATA)>
<!ELEMENT DesErrCode         (#PCDATA)>
```



```
<!ELEMENT Importe                (#PCDATA)>
<!ELEMENT Moneda                  (#PCDATA)>
<!ELEMENT CodAutorizacion        (#PCDATA)>
<!ELEMENT Usuario                 (#PCDATA)>
<!ELEMENT NivelSeguridad         (#PCDATA)>
<!ELEMENT FechaVenta             (#PCDATA)>
<!ELEMENT PPI.S4B.Venta.Req.hash  (#PCDATA)>
<!ELEMENT PPI.S4B.Venta.Res.hash.OK  (#PCDATA)>
<!ELEMENT PPI.S4B.Venta.Res.hash.KO  (#PCDATA)>
<!ELEMENT PPI.S4B.Devolucion.Req.hash (#PCDATA)>
<!ELEMENT PPI.S4B.Devolucion.Res.hash.OK  (#PCDATA)>
<!ELEMENT PPI.S4B.Devolucion.Res.hash.KO  (#PCDATA)>
<!ELEMENT PPI.S4B.Error.hash       (#PCDATA)>
```

#### 4.1.2 Elements description

Tag XML	Descripción
<PPI.S4B>	This tag defines the beginning of the message (request or response)
<PPI.S4B.Venta.Req>	Type of message that defines a payment request (sell).
<PPI.S4B.Venta.Res.OK>	Type of message that defines a Ok response to payment request (authorized sell).
<PPI.S4B.Venta.Res.KO>	Type of message that defines a KO response to payment request (denied sell).
<PPI.S4B.Devolucion.Req>	Type of message that defines a refund request.
<PPI.S4B.Devolucion.Res.OK>	Type of message that defines a OK response to a refund request (refund accepted).
<PPI.S4B.Devolucion.Res.KO>	Type of message that defines a KO response to a refund request (denied refund).
<PPI.S4B.Venta.Req.hash>	Hash SHA-1 of the message. Concatenation of the fields: PAN, Importe, Moneda, Usuario, ComercioPUC, IP
<PPI.S4B.Venta.Res.hash.OK>	Hash SHA-1 of the message. Concatenation of the fields: Importe, CodAutorizacion, ComercioPUC

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<PPI.S4B.Venta.Res.hash.KO>	Hash SHA-1 of the message. Concatenation of the fields: ErrCode, ComercioPUC
<PPI.S4B.Devolucion.Reg.hash>	Hash SHA-1 of the message. Concatenation of the fields: Importe, Moneda, Usuario, ComercioPUC, IP
<PPI.S4B.Devolucion.Res.hash.OK>	Hash SHA-1 of the message. Concatenation of the fields: Importe, CodAutorizacion, ComercioPUC
<PPI.S4B.Devolucion.Res.hash.KO>	Hash SHA-1 of the message. Concatenation of the fields: ErrCode, ComercioPUC
<PPI.S4B.Error.hash>	Hash SHA- of the message. Concatenation of the fields: ErrCode, CSBSistema4B
<IdComercioPPI>	AN 10 – Merchant ID
<Referencia>	AN 255
<PAN>	N 19 – without spaces or separators
<FechaHora>	N 14 – Date and time of the transaction to process - Format YYYYMMDDHHMMSS
<FechaVenta>	N 8 – Date of the payment that receives the refund – format YYYYMMDD
<Importe>	N 12 – Total amount including decimals but no any punctuation symbols. Example: 16,3 € must be expressed as 1630
<Moneda>	N 3 – ISO Currency code
<FechaCaducidad>	N 4 – Format YYMM
<FormaPago>	N 3 – Payment method. Optional
<IdCuadre>	N 2 – (PUC)
<ComercioPUC>	N 15
<ErrCode>	N -
<DesErrCode>	AN 255
<CodAutorizacion>	AN 6 – (PUC)
<Usuario>	AN 10 . Optional
<NivelSeguridad>	AN –
<CSBSistema4B>	N 4 – CSB 0444



## 4.2 Files Examples

### 4.2.1 Payment request (sale)

```
<?xml version='1.0' encoding='ISO-8859-1'?>
<PPI.S4B>
  <PPI.S4B.Venta.Req>
    <IdComercioPPI> ALF1100</IdComercioPPI>
    <Referencia>87654321</Referencia>
    <FechaHora>20021110150030</FechaHora>
    <PAN>444433332221111</PAN>
    <FechaCaducidad>0501</FechaCaducidad>
    <Importe>69000</Importe>
    <Moneda>978</Moneda>
  <FormaPago>000</FormaPago>
  <Usuario>Admin1</Usuario>
  <PPI.S4B.Venta.Req.Hash>oIU7eYqzzHrlUFa9yV99LxPdvRg=</PPI.S4B.Venta.Req.Hash>
</PPI.S4B.Venta.Req>
</PPI.S4B>
```

### 4.2.2 Response to a payment request

If payment is not authorized:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<PPI.S4B>
  <PPI.S4B.Venta.Res.KO>
    <IdComercioPPI> ALF1100</IdComercioPPI>
    <Referencia>87654321</Referencia>
    <FechaHora>20021110150030</FechaHora>
    <ErrCode>***</ErrCode>
    <DesErrCode>***</DesErrCode>
    <PPI.S4B.Venta.Res.Hash.KO>***</ PPI.S4B.Venta.Res.Hash.KO>
  </PPI.S4B.Venta.Res.KO>
</PPI.S4B>
```

If payment is authorized:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<PPI.S4B>
  <PPI.S4B.Venta.Res.OK>
    <IdComercioPPI> ALF1100</IdComercioPPI>
    <Referencia>87654321</Referencia>
    <FechaHora>20021110150030</FechaHora>
    <Importe>***</Importe>
    <Moneda>***</Moneda>
```



```
<CodAutorizacion>***</CodAutorizacion>
<NivelSeguridad>***</NivelSeguridad>
<IdCuadre>***</IdCuadre>
<PPI.S4B.Venta.Res.Hash.OK>***</ PPI.S4B.Venta.Res.Hash.OK>
</PPI.S4B.Venta.Res.OK>
</PPI.S4B>
```

#### 4.2.3 Refund request

```
<?xml version='1.0' encoding='ISO-8859-1'?>
<PPI.S4B>
  <PPI.S4B.Devolucion.Req>
    <IdComercioPPI>ALF1100</IdComercioPPI>
    <Referencia>87654321</Referencia>
    <FechaHora>20021110150030</FechaHora>
    <FechaVenta>20021108</FechaVenta>
    <Importe>69000</Importe>
    <Moneda>978</Moneda>
    <Usuario>yomismo</Usuario>
  <PPI.S4B.Devolucion.Req.Hash>8QBN17eucs6Da5D98WZEXbfjDlc=</
PPI.S4B.Devolucion.Req.Hash>
  </PPI.S4B.Devolucion.Req>
</PPI.S4B>
```

#### 4.2.4 Response to a refund request

If the refund is not accepted:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<PPI.S4B>
  <PPI.S4B.Devolucion.Res.KO>
    <IdComercioPPI>ALF1100</IdComercioPPI>
    <Referencia>87654321</Referencia>
    <FechaHora>20021110150030</FechaHora>
    <ErrCode>***</ErrCode>
    <DesErrCode>***</DesErrCode>
    <PPI.S4B.Devolucion.Res.Hash.KO>**</PPI.S4B.Devolucion.Res.Hash.KO>
  </PPI.S4B.Devolucion.Res.KO>
</PPI.S4B>
```

If the refund is accepted:

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<PPI.S4B>
  <PPI.S4B.Devolucion.Res.OK>
    <IdComercioPPI>ALF1100</IdComercioPPI>
```



```
<Referencia>87654321</Referencia>
<FechaHora>20021110150030</FechaHora>

<Importe>***</Importe>
<Moneda>***</Moneda>
<CodAutorizacion>***</CodAutorizacion>
<IdCuadre>***</IdCuadre>
<PPI.S4B.Devolucion.Res.Hash.OK>**</PPI.S4B.Devolucion.Res.Hash.OK>
</PPI.S4B.Devolucion.Res.OK>
</PPI.S4B>
```

#### 4.2.5 Response to a bad-formed XML request

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<PPI.S4B>
  <PPI.S4B.Error>
    <ErrCode>***</ErrCode>
    <DesErrCode>***</DesErrCode>
    <PPI.S4B.Error.hash >***</PPI.S4B.Error.hash>
  </PPI.S4B.Error>
</PPI.S4B>
```