PAYSUBS™

Web Interface v2.2

DPO | PAYGATE

Version History

Version	Date	Comment
2.1	October 2006	Document created
2.2	March 2008	Added new Result Codes; updated test credit cards

A Quick Sample

1. Copy & paste the code block below into a new text document (NotePad).
2. Save the new text document as 'PaySubs.htm' into the 'My Documents' folder.
3. Double-click on the new file created; it will open a Browser window displaying a 'Submit' button.
4. Click the 'Submit' button; you will be directed to the PaySubs processing page.

Note: This sample is only intended to demonstrate how to connect to PaySubs; it does not demonstrate how to read the results of a transaction. Please see SAMPLES for links to complete examples.

```
<html>
 <head>
  <title>PayGate::PaySubs Web Interface Sample</title>
 </head>
 <body>
  <form action="https://www.paygate.co.za/paysubs/process.trans" method="POST" >
   <input type="hidden" name="VERSION" value="21">
   <input type="hidden" name="PAYGATE_ID" value="10011072130">
   <input type="hidden" name="REFERENCE" value="Customer1">
   <input type="hidden" name="AMOUNT" value="3299">
   <input type="hidden" name="CURRENCY" value="ZAR">
   <input type="hidden" name="RETURN_URL" value="http://localhost">
   <input type="hidden" name="TRANSACTION_DATE" value="2005-06-30 18:30">
   <input type="hidden" name="SUBS_START_DATE" value="2005-07-01">
   <input type="hidden" name="SUBS_END_DATE" value="2006-06-30">
   <input type="hidden" name="SUBS_FREQUENCY" value="228">
   <input type="hidden" name="PROCESS_NOW" value="NO">
   <input type="hidden" name="PROCESS_NOW_AMOUNT" value="">
   <input type="hidden" name="CHECKSUM" value="f672dfced5732fd4c8dc58e2a4c6ce78">
   <input type="submit" value="Submit">
  </form>
 </body>
</html>
```

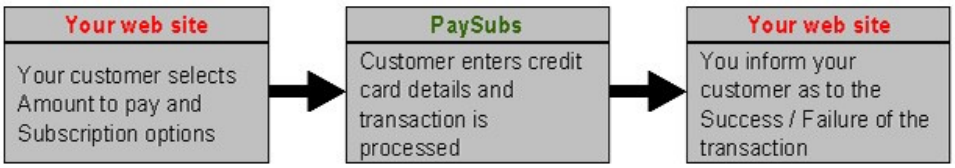
The above example will load a subscription record into the PaySubs system which tells PaySubs that for PayGateID 10011072130, a transaction must be processed every month on the 28th for an Amount of R32.99. This must only happen between the 1st of July 2005 and the 30th of June 2006 (ie the first transaction will be processed on the 28th of July 2005 and the last on 28th June 2006).
The Reference number to store against this PaySubs transaction (for easy reference when searching in the Back Office) is 'Customer1'.
If the PROCESS_NOW value is set to "YES", then PaySubs will process a transaction immediately. This is useful if you want to get your first payment immediately and second and subsequent payments at future intervals.

Refer to the Subs Frequency table to determine the correct code to use here.

Introduction

Where does the PaySubs Web Interface fit in

PaySubs is effectively a 'debit order via credit card' system. If you are selling a product or service whereby your customer will be billed a fixed amount over a predetermined period at regular intervals – then PaySubs is ideal.
All credit card data is stored on the PayGate system, so it takes the management and security hassle away from the merchant. The merchant is able to manage his subscriptions via the PayGate Back Office interface. The merchant can capture new subscriptions manually via the Back Office. However it is often more practical for the client to key in his details directly – i.e. for the client to create the subscription when (s)he purchases the product or service from the merchants web site.
The PaySubs Web Interface enables the merchant to redirect the client to the PaySubs Web Interface page to conclude this transaction.



What are the benefits

1. The setup process is relatively simple and can be easily integrated into existing web sites.
2. The merchant doesn't require a SSL certificate to capture the credit card details as PayGate provides this.
3. All sensitive credit card information is stored on PayGate's secure servers.
4. The merchant does not have to submit (and manage) batches of card data to PayGate periodically.
5. PaySubs can be customised to suit the look & feel of your web site.

How to get it working

There are 2 steps when connecting a web site to PaySubs. The 1st step is sending the request to PaySubs to show the subscription screen to the customer. The 2nd step involves collecting the results of the transaction from PayGate.

The Request

All information sent to PaySubs must be in hidden form fields (as in the Quick Sample above), which are posted to the PaySubs web page. The HTML form element should resemble:

```
<form action="https://www.paygate.co.za/PaySubs/process.trans" method="POST" >
```

The hidden fields are described below:

VERSION
This field contains the version number for the PaySubs Web Interface specification. To conform to this document, the version should be 21.

```
<input type="hidden" name="VERSION" value="21">
```

PAYGATE_ID
This field contains your PayGate ID; it is unique to each PayGate client and ensures that all payments received are credited directly to the client's bank account. To **test** your system, use the PayGate ID: 10011072130. Remember to replace this with your own PayGate ID when going live.

```
<input type="hidden" name="PAYGATE_ID" value="10011072130">
```

REFERENCE
This is your reference to this transaction. It can contain letters & digits and be up to 80 characters long.

```
<input type="hidden" name="REFERENCE" value="Customer1">
```

AMOUNT
This is the subscription amount that will be applied to the transaction each time the subscription is processed. This amount can be overridden (one time only) by the PROCESS_NOW_AMOUNT if the PROCESS_NOW field is set to "YES".
The amount must be in the lowest denomination (i.e. cents). R32.99 should be specified as:

```
<input type="hidden" name="AMOUNT" value="3299">
```

CURRENCY
This is for future use and for the moment must be set to South African Rands (ZAR).

```
<input type="hidden" name="CURRENCY" value="ZAR">
```

RETURN_URL
Once the transaction is completed, PaySubs will return the customer to a page on your web site. The page the customer must see is specified in this field.

```
<input type="hidden" name="RETURN_URL" value="http://www.mywebsite.com/thanks.php">
```

TRANSACTION_DATE
This is the date that the transaction was initiated on your website or system. The transaction date must be specified in Coordinated Universal Time (UTC) and formatted as 'YYYY-MM-DD HH:MM'. PayGate will only process the transaction if it's server date falls within a half-hour either side of this transaction date

```
<input type="hidden" name="TRANSACTION_DATE" value="2005-06-30 18:30">
```

EMAIL (optional)
The email address of your customer is optional; if it is not supplied, PaySubs will prompt the customer for their email address when entering their credit card details. If the transaction is approved, PaySubs will email a payment confirmation to this email address. If the email address is supplied, it must be included in the CHECKSUM calculation described below.

```
<input type="hidden" name="EMAIL" value="customer@mywebsite.com">
```

SUBS_START_DATE
This is the date from which the subscription becomes valid. By specifying a future date you are able to load transactions immediately to be processed at a future date.
Specifying today's date or earlier, means that the subscription is immediately within its 'active period' but it will only generate a transaction when the SUBS_FREQUENCY is a match. The data format should be 'YYYY-MM-DD' with no time specified.

```
<input type="hidden" name="SUBS_START_DATE" value="2005-07-01">
```

SUBS_END_DATE
This is the date when the subscription expires and becomes invalid. This must be a future date. The data format should be 'YYYY-MM-DD' with no time specified.

```
<input type="hidden" name="SUBS_END_DATE" value="2006-06-30">
```

SUBS_FREQUENCY
This code specifies the date on which to process the transaction and the frequency with which transactions are processed (daily, weekly, monthly etc). Refer to the Subscription Frequency table in Appendix A.

```
<input type="hidden" name="SUBS_FREQUENCY" value="228">
```

PROCESS_NOW
This flag indicates if a transaction should be processed immediately. A value of "YES" will process a transaction immediately. A value of "NO" indicates that a transaction must not be processed immediately. This is useful if you want to get your first payment immediately and second and subsequent payments at future intervals.

```
<input type="hidden" name="PROCESS_NOW" value="NO">
```

PROCESS_NOW_AMOUNT
If PROCESS_NOW is "YES" then this field must contain a valid amount. This is the amount that will be deducted from your customer's card immediately and can be different from the AMOUNT field. If PROCESS_NOW is "NO" then this field should be blank.
This amount must be in the lowest denomination (i.e. cents). R32.99 should be specified as:

```
<input type="hidden" name="PROCESS_NOW_AMOUNT" value="3299">
```

CHECKSUM
This field contains a calculated MD5 hash based on the values of the above-mentioned fields and a ***key***. The ***key*** is only known by the merchant and PayGate (via the PayGate BackOffice) and should not be displayed on the merchant's web site. PaySubs does the same calculation when the request is received to ensure that the data has not been tampered with. Refer to the section on Security below for more detail regarding the MD5 hash.

All fields are separated with a pipe (the | character) to form the source of the MD5 hash (optional fields in *italics)*:
VERSION|PAYGATE_ID|REFERENCE|AMOUNT|CURRENCY|RETURN_URL|TRANSACTION_DATE|*EMAIL*|
SUBS_START_DATE|SUBS_END_DATE|SUBS_FREQUENCY|PROCESS_NOW|
PROCESS_NOW_AMOUNT|**KEY**

Assuming the **KEY** is 'secret', the following scenarios are possible:
1. Without the **EMAIL** field, the checksum source would translate to:
21|10011072130|Customer1|3299|ZAR|http://www.mywebsite.com/thanks.php|2006-06-30 18:30|2005-07-01|
2006-06-30|228|NO||secret
The MD5 hash value for this transaction would be: 36f239763b210035a68882fbc9180deb.

```
<input type="hidden" name="CHECKSUM" value="36f239763b210035a68882fbc9180deb">
```

2. With the **EMAIL** field, the checksum source would translate to:

21|10011072130|Customer1|3299|ZAR|http://www.mywebsite.com/thanks.php|2005-06-30 18:30|customer@mywebsite.com|2005-07-01|2006-06-30|228|NO||secret

The MD5 hash value for this transaction would be: c69a58715c6c6b943f1e4dab86776d83.

```
<input type="hidden" name="CHECKSUM" value="c69a58715c6c6b943f1e4dab86776d83">
```

Request Examples

These examples assume the Encryption Key **secret** was used as part of the **CHECKSUM** calculation.

Without the EMAIL field:

```
<form action=" http://www.mywebsite.com/thanks.php" method="POST" >
 <input type="hidden" name="VERSION" value="21">
 <input type="hidden" name="PAYGATE_ID" value="10011072130">
 <input type="hidden" name="REFERENCE" value="Customer1">
 <input type="hidden" name="AMOUNT" value="3299">
 <input type="hidden" name="CURRENCY" value="ZAR">
 <input type="hidden" name="RETURN_URL" value="http://www.mywebsite.com/thanks.php">
 <input type="hidden" name="TRANSACTION_DATE" value="2005-06-30 18:30">
 <input type="hidden" name="SUBS_START_DATE" value="2005-07-01">
 <input type="hidden" name="SUBS_END_DATE" value="2006-06-30">
 <input type="hidden" name="SUBS_FREQUENCY" value="228">
 <input type="hidden" name="PROCESS_NOW" value="NO">
 <input type="hidden" name="PROCESS_NOW_AMOUNT" value="">
 <input type="hidden" name="CHECKSUM" value="36f239763b210035a68882fbc9180deb">
</form>
```

With the EMAIL field:

```
<form action=" http://www.mywebsite.com/thanks.php" method="POST" >
 <input type="hidden" name="VERSION" value="21">
 <input type="hidden" name="PAYGATE_ID" value="10011072130">
 <input type="hidden" name="REFERENCE" value="Customer1">
 <input type="hidden" name="AMOUNT" value="3299">
 <input type="hidden" name="CURRENCY" value="ZAR">
 <input type="hidden" name="RETURN_URL" value="http://www.mywebsite.com/thanks.php">
 <input type="hidden" name="TRANSACTION_DATE" value="2005-06-30 18:30">
 <input type="hidden" name="EMAIL" value=”customer@mywebsite.com">
 <input type="hidden" name="SUBS_START_DATE" value="2005-07-01">
 <input type="hidden" name="SUBS_END_DATE" value="2006-06-30">
 <input type="hidden" name="SUBS_FREQUENCY" value="228">
 <input type="hidden" name="PROCESS_NOW" value="NO">
 <input type="hidden" name="PROCESS_NOW_AMOUNT" value="">
 <input type="hidden" name="CHECKSUM" value="c69a58715c6c6b943f1e4dab86776d83">
</form>
```

The Response

Once PaySubs has completed the transaction, it returns the customer to the merchant's web site. The results of the transaction are posted in hidden fields similar to the Request. You will need to access these hidden fields to check the results by using one of the following tools:

- Active Server Pages
- PHP
- Perl
- Java Server Pages

There are others but these are the most common. The Response hidden fields are detailed below:

PAYGATE_ID
This should be the same PayGate ID that was passed in the request; if it is not, then the data has been altered.

```
<input type="hidden" name="PAYGATE_ID" value="10011072130">
```

REFERENCE
This should be the same reference that was passed in the request; if it is not, then the data has been altered.

```
<input type="hidden" name="REFERENCE" value="Customer1">
```

TRANSACTION_STATUS
The final status of the transaction. Refer to the Transaction Codes table for possible values.

```
<input type="hidden" name="TRANSACTION_STATUS" value="1">
```

If the PROCESS_NOW field is set to "NO" then this value will be 5 to indicate that the transaction has been successfully received (and loaded) by PayGate.
If the PROCESS_NOW field is set to "YES" then this value will be 1 to indicate a successful transaction or 2 to indicate that the transaction was Declined by the bank.
NB In the case of a transaction not being successful then the Subscription record will not be written.

RESULT_CODE
This field contains a code indicating the result of the transaction. Refer to the Result Code table for a complete list. The description corresponding to this code is in the RESULT_DESC field.

```
<input type="hidden" name="RESULT_CODE" value="990017">
```

If the PROCESS_NOW field is set to "NO" then this value will be 990030 to indicate that the transaction has been successfully received (and loaded) by PayGate.
If the PROCESS_NOW field is set to "YES" then this value will be 990017 to indicate a successful transaction else it will be set to the relevant error code to indicate that the transaction was Declined by the bank.
NB In the case of a transaction not being successful then the Subscription record will not be written.

AUTH_CODE
If the PROCESS_NOW field is "YES" and the bank approves the transaction, then the authorisation code will be placed in this field. This is the merchants guarantee that the funds are available on the customers credit card.
If the PROCESS_NOW field is "NO" then this field will be empty.

```
<input type="hidden" name="AUTH_CODE" value="015867">
```

AMOUNT
This field will contain the amount that was used for the transaction. If the PROCESS_NOW field is set to "NO" then this field contains the AMOUNT passed in the request. If the PROCESS_NOW field is set to "YES" then this field contains the PROCESS_NOW_AMOUNT passed in the request.

```
<input type="hidden" name="AMOUNT" value="3299">
```

RESULT_DESC
This field contains a description for the result of the transaction. Refer to the Result Code table for a complete list. The numeric code corresponding to this description is in the RESULT_CODE field.

```
<input type="hidden" name="RESULT_DESC" value="Auth Done">
```

TRANSACTION_ID
This field contains the PayGate unique reference number for the transaction. It will by empty if the PROCESS_NOW field is "NO".

```
<input type="hidden" name="TRANSACTION_ID" value="5975624">
```

SUBSCRIPTION_ID
This field contains the PayGate unique reference number for the subscription. In the case of a transaction (if PROCESS_NOW is "YES") not being successful then the Subscription record will not be written and this field will be empty.

```
<input type="hidden" name="SUBSCRIPTION_ID" value="504">
```

RISK_INDICATOR
This is a 2-character field containing a risk indicator for this transaction. The first character describes the Verified-by-Visa / MasterCard SecureCode authentication; refer to the Authentication Indicator table for the possible values. The second character is for future use and will be set to 'X'. Please (refer to the MasterCard SecureCode & Verified by Visa section for more info. If the PROCESS_NOW is "NO" then the transaction will not be authenticated and this field will contain "XX".

```
<input type="hidden" name="RISK_INDICATOR" value="NX">
```

CHECKSUM
The MD5 hash calculation of all the response fields including the ***key*** known only to the merchant and PayGate. You should do the same calculation when you receive the response to ensure that the data has not been tampered with. Refer to the section on Security below for more detail regarding the MD5 hash.

All fields are separated with a pipe (the | character) to form the source of the MD5 hash:
PAYGATE_ID|REFERENCE|TRANSACTION_STATUS|RESULT_CODE|AUTH_CODE|AMOUNT|
RESULT_DESC|TRANSACTION_ID|SUBSCRIPTION_ID|RISK_INDICATOR|**KEY**

Assuming the **KEY** is 'secret', the checksum source would translate to:
10011072130|Customer1|1|990017|015867|3299|Auth Done|5975624|504|NX|secret
The MD5 hash value for this transaction would be: f6c84dfef00e483c54ea42fc2ec580aa.

```
<input type="hidden" name="CHECKSUM" value="f6c84dfef00e483c54ea42fc2ec580aa">
```

Response Example

This example assumes the Encryption Key **secret** was used as part of the **CHECKSUM** calculation.

```
<html>
 <head>
  <title>PayGate::PayWebv2 Response Sample</title>
 </head>
 <body>
  <form action=" http://www.mywebsite.com/thanks.php" method="POST" >
   <input type="hidden" name="PAYGATE_ID" value="10011072130">
   <input type="hidden" name="REFERENCE" value="Customer1">
   <input type="hidden" name="TRANSACTION_STATUS" value="1">
   <input type="hidden" name="RESULT_CODE" value="990017">
   <input type="hidden" name="AUTH_CODE" value="015867">
   <input type="hidden" name="AMOUNT" value="3299">
   <input type="hidden" name="RESULT_DESC" value="Auth Done">
   <input type="hidden" name="TRANSACTION_ID" value="5975624">
   <input type="hidden" name="SUBSCRIPTION_ID" value="504">
   <input type="hidden" name="RISK_INDICATOR" value="NX">
   <input type="hidden" name="CHECKSUM" value="f6c84dfef00e483c54ea42fc2ec580aa">
  </form>
 </body>
</html>
```

Misc. Information

Security

Security is enhanced by making use of an MD5 checksum value that is passed in the request to PaySubs and the response from PaySubs.

The checksum for the PaySubs **Request** is calculated by concatenating the fields (PAYGATE_ID, REFERENCE, AMOUNT, CURRENCY, RETURN_URL, TRANSACTION_DATE, EMAIL, SUBS_START_DATE, SUBS_END_DATE, SUBS_FREQUENCY & PROCESS_NOW). A password / encryption key is appended and the resulting string is passed through an MD5 hash algorithm to produce the checksum. When PayGate receives the PaySubs request, the same checksum calculation is performed. If the PayGate checksum does not match the checksum specified in the request, the transaction is rejected.

The checksum for the PaySubs **Response** is calculated by concatenating the fields (PAYGATE_ID, REFERENCE, TRANSACTION_STATUS, RESULT_CODE, AUTH_CODE, AMOUNT, RESULT_DESC & TRANSACTION_ID, SUBSCRIPTION_ID, RISK_INDICATOR). The same password / encryption key used in the request is appended and the resulting string is passed through an MD5 hash algorithm to produce the checksum. **The merchant must do the same checksum calculation when the response is received. If the calculated checksum does not match the PayGate checksum in the response, the merchant should reject the results**.

MD5 is a one-way hashing algorithm. Simply stated, input of any length supplied to the function produces a fixed length (in this case 32 characters) output so that the original input is not recognisable. It is impossible to reverse; i.e. giving the function the result will not give you the original source. Most programming languages support the MD5 function; if not native support then by a module or extension. The website: http://userpages.umbc.edu/~mabzug1/cs/md5/md5.html has more information on MD5 and it's implementation in various programming languages.

The password / encryption key used in the checksum calculation should only be known by the merchants website and PayGate. It should not be displayed on any web page i.e. a customer should never be able to see it. PayGate allows for the encryption key to be a maximum of 32 alphanumeric characters. The longer and more complex the key is, the harder it is for a malicious user to guess it.

Customisation

Merchants are given access to the PaySubs configuration page (via the PayGate BackOffice) where they are able to control the following 'look & feel' components of the PaySubs Web Interface:

- Background colours and font styles, colours & sizes
- Ability to upload & position a company logo
- Choose whether to allow budget transactions.
- Choose which credit card brands to accept.
- A static message displayed to the customer.

The configuration page is also used to set the password / encryption key used in the checksum calculation.

Testing

The default test PayGate ID is 10011072130; all requests using this PayGate ID are processed to our test server. Please refer to the table below when testing to simulate predictable results:

Card Brand	Card Number	Risk Indicator
Approved Transactions. RESULT_CODE = 990017; TRANSACTION_STATUS = 1.		
Visa	4000000000000002	Authenticated (AX) *
MasterCard	5200000000000015	Authenticated (AX)
American Express	378282246310005	Not Authenticated (NX)
Insufficient Funds Transactions. RESULT_CODE = 900003; TRANSACTION_STATUS = 2.		
MasterCard	5200000000000023	Not Authenticated (NX) *
Visa	4000000000000028	Not Authenticated (NX)
American Express	371449635398431	Not Authenticated (NX)
Declined Transactions. RESULT_CODE = 900007; TRANSACTION_STATUS = 2.		
Visa	4000000000000036	Authenticated (AX) *
MasterCard	5200000000000049	Authenticated (AX) *
Diners Club	30569309025904	Not Applicable (XX)
Invalid Card Number. RESULT_CODE = 900004; TRANSACTION_STATUS = 2.		
All other card numbers		Not Applicable (XX)
Unprocessed Transactions. RESUT_CODE = 990022; TRANSACTION_STATUS = 0.		
MasterCard	5200000000000064	Not Applicable (XX)
Expiry Date must be in the future; Card Holder & CVV can be made up.		

** = Using these card numbers will allow you to test the MasterCard SecureCode / Verified-by-Visa authentication process.*

The default test account does not allow any customisation; all options are enabled and there is no logo. Please go to the PayWeb v2 developer site: https://www.paygate.co.za/develop/paywebv2_login.php and click the 'apply for a test account' link. You will be provided with a Test PayGate ID that can be customised. Once your live PayGate account has been created, customisation made on the test account can be applied to your live account.

MasterCard SecureCode & Verified by Visa

What is Secure Code and Verified by Visa?
Secure Code and Verified by Visa is a MasterCard and Visa initiative to reduce online credit card transaction fraud. (It applies to Master and Visa cards only).
The Visa implementation is referred to as Verified by Visa or V-by-V.
The MasterCard implementation is referred to as MasterCard Secure Code.

How does Secure Code and Verified by Visa benefit the merchant?
It significantly reduces the risk of fraudulent transactions, and moves the risk of certain charge backs from the merchant to the card holder or the Issuing Bank.
(Note – there are instances where the charge back risk remains with the merchant – this is detailed in the flowchart below).

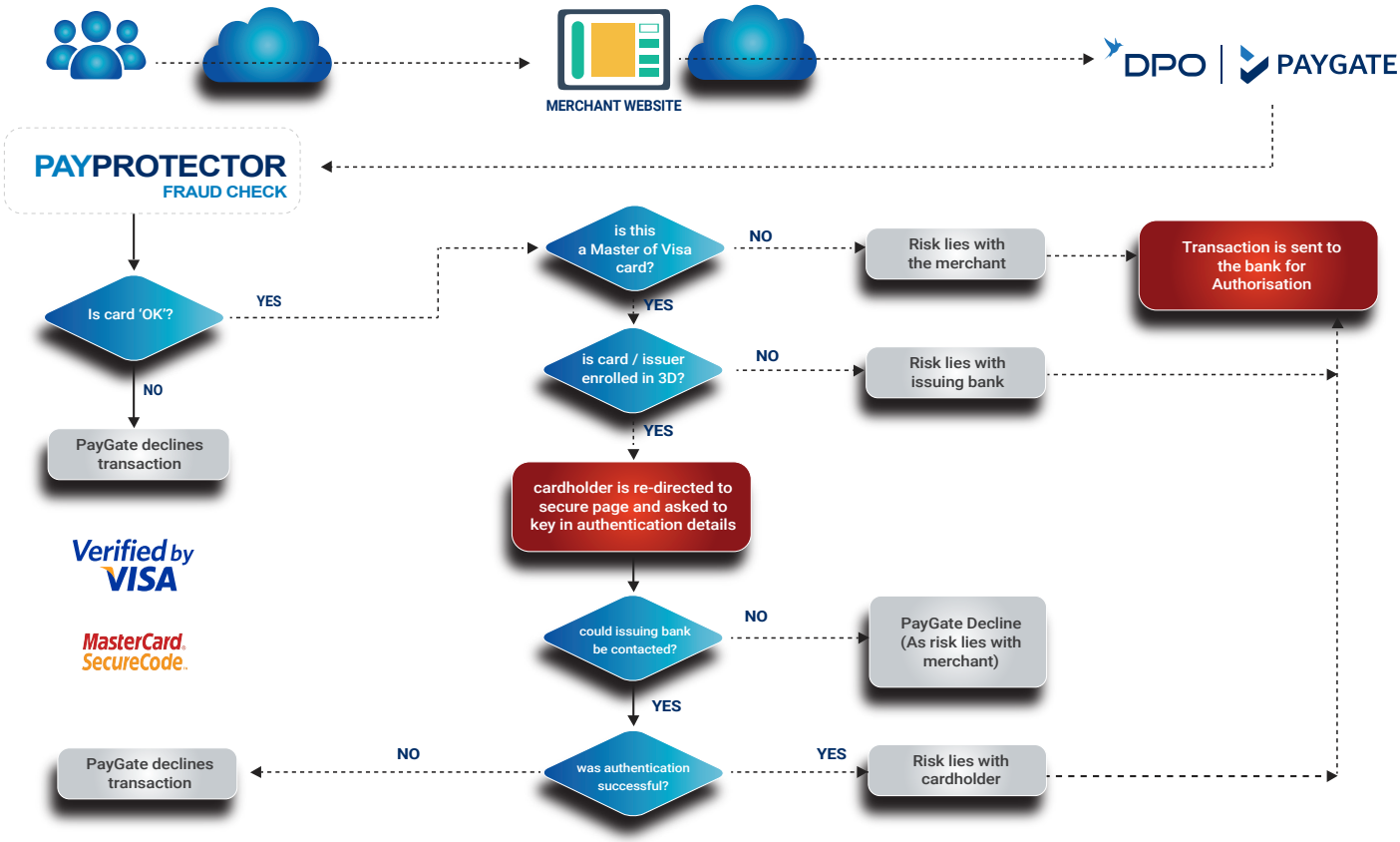
How Does Secure Code and Verified by Visa work?
When a purchase is made online, the cardholder will be re-directed from the secure PayGate payment page, to the issuing bank's (cardholder's bank) Secure Code and Verified by Visa authentication page. Here the cardholder will be required to key in his/her authentication details (eg secret PIN code). The Issuing Bank validates this code and returns an 'OK' or 'not OK' response to PayGate. If PayGate receives an 'OK' response then we pass the transaction on to Standard Bank for Authorisation. If the response is 'not OK' then the transaction is 'Declined' up front by PayGate.

It should however be noted that not all Issuing Banks will force their cardholders to register for this service. Where this is the case, a re-direct will still take place to the issuing bank's website but in this case the transaction will not be authenticated. The message code returned, will however indicate that you as a merchant attempted to authenticate the transaction and that the issuing bank is not registered for the service. The transaction will be processed as a Secure Code and Verified by Visa transaction i.e. the risk will be passed to the issuing bank.

Does this mean I will never have to worry about a 'charge back' again?
No. Charge backs for 'valid reasons' will still be at your risk. For e.g. if the client claims that (s)he never received the goods – or the goods were received, but they were damaged.
Secure Code and V-by-V will help negate charge backs where the card holder claims it was a fraudulent transaction.

What about the other cards (AMEX, Diners etc)?
These cards are not authenticated via the Secure Code and Verified by Visa process. At this time transaction risk for purchases made with cards other than Master and Visa, will remain with the merchant.

A typical credit card authorisation flow including PayProtector and 3D



Frequently Asked Questions

How do I know the transaction is approved?

There are 3 things to check to determine if the transaction was approved.

1. The TRANSACTION_STATUS field: It should contain the value "1".
2. The point above plus checking the RESULT_CODE field: It should contain the value "990017".
3. The point above plus checking the AUTH_CODE field: It should not be blank.

I'm using VBScript / JScript in ASP and I can't find an MD5 function?

Please refer to the site: http://userpages.umbc.edu/~mabzug1/cs/md5/md5.html (or search on Google). It has links to developers that have already written the MD5 function in VBScript / Jscript that can be included on your site.

What response is returned if the customer clicks the 'Cancel' button on the PaySubs payment page?

1. The TRANSACTION_STATUS field will contain "0".
2. The RESULT_CODE field will contain "990028".
3. The TRANSACTION_ID field will be blank.

How will I know that I the transaction was authenticated and I have charge back protection?

When your website receives the transaction results from PayGate, it should check the first character of the RISK_INDICATOR field. If the first character is 'A' then your customer has been authenticated and cannot initiate a charge back. If the first character is 'N' then the transaction has been declined or approved but not authenticated; you should take further steps to ensure that you are dealing with the legitimate card holder.

The transaction was authenticated and declined; how can this be?

PayGate attempts to authenticate the cardholder before sending the transaction to the bank for authorisation. Therefore even if the cardholder is authenticated through MasterCard SecureCode or Verified-by-Visa, the bank could still decline the transaction due to insufficient funds etc.

Is it possible to not make use of MasterCard SecureCode / Verified by Visa?

It is; but not recommended, as you will not receive any charge back protection. If you prefer not to make use of MasterCard SecureCode / Verified-by-Visa, please contact support@paygate.co.za. With authentication processing disabled, the RISK_INDICATOR field in the response will not be returned; it will also not be used in the CHECKSUM calculation. Please refer to the following CHECKSUM definition instead:

All fields are separated with a pipe (the | character) to form the source of the MD5 hash:
PAYGATE_ID|REFERENCE|TRANSACTION_STATUS|RESULT_CODE|AUTH_CODE|AMOUNT|
RESULT_DESC|TRANSACTION_ID|SUBSCRIPTION_ID|**KEY**

Assuming the **KEY** is 'secret', the checksum source would translate to:
10011072130|Customer1|1|990017|015867|3299|Auth Done|5975624|504|secret
The MD5 hash value for this transaction would be: 252875624f8536b75de0a66e4b030b75.

```
<input type="hidden" name="CHECKSUM" value="252875624f8536b75de0a66e4b030b75">
```

Please refer to the table below when testing unauthenticated transactions:

Card Brand	Card Number	Risk Indicator
Approved Transactions. RESULT_CODE = 990017; TRANSACTION_STATUS = 1.		
MasterCard	5200000000000007	Not Returned
Insufficient Funds Transactions. RESULT_CODE = 900003; TRANSACTION_STATUS = 2.		
Visa	4000000000000010	Not Returned
Declined Transactions. RESULT_CODE = 900007; TRANSACTION_STATUS = 2.		
MasterCard	5200000000000031	Not Returned

Appendix A : Codes & Descriptions

Subscription Frequency Codes

Code	Description
111	Weekly on Sun
112	Weekly on Mon
113	Weekly on Tue
114	Weekly on Wed
115	Weekly on Thu
116	Weekly on Fri
117	Weekly on Sat
121	2nd Weekly on Sun
122	2nd Weekly on Mon
123	2nd Weekly on Tue
124	2nd Weekly on Wed
125	2nd Weekly on Thu
126	2nd Weekly on Fri
127	2nd Weekly on Sat
131	3rd Weekly on Sun
132	3rd Weekly on Mon
133	3rd Weekly on Tue
134	3rd Weekly on Wed
135	3rd Weekly on Thu
136	3rd Weekly on Fri
137	3rd Weekly on Sat
201	Monthly on 1st
202	Monthly on 2nd
203	Monthly on 3rd
204	Monthly on 4th
205	Monthly on 5th
206 – 227	as above
228	Monthly on 28th
229	Last day of the month
301 – 328	Every 2nd month on 1st to 28th respectively
329	Every 2nd month on last day of the month
401 – 428	Every 3rd month on 1st to 28th respectively
429	Every 3rd month on last day of the month

Result Codes

Code	Description	Comment
Credit Card Errors – These RESULT_CODEs are returned if the transaction cannot be authorised due to a problem with the card. The TRANSACTION_STATUS will be **2**.		
900001	Call for Approval	
900002	Card Expired	
900003	Insufficient Funds	
900004	Invalid Card Number	
900005	Bank Interface Timeout	Indicates a communications failure between the banks systems.
900006	Invalid Card	
900007	Declined	
900009	Lost Card	
900010	Invalid Card Length	
900011	Suspected Fraud	
900012	Card Reported As Stolen	
900013	Restricted Card	
900014	Excessive Card Usage	
900015	Card Blacklisted	
900207	Declined; authentication failed	Indicates the cardholder did not enter their MasterCard SecureCode / Verified by Visa password correctly.
990020	Auth Declined	
991001	Invalid expiry date	
991002	Invalid Amount	
Transaction Successful – Indicates the transaction was approved. TRANSACTION_STATUS will be **1**.		
990017	Auth Done	
Communication Errors – These RESULT_CODEs are returned if the transaction cannot be completed due to an unexpected error. TRANSACTION_STATUS will be **0**.		
900205	Unexpected authentication result (phase 1)	
900206	Unexpected authentication result (phase 1)	
990001	Could not insert into Database	
990022	Bank not available	
990053	Error processing transaction	
Miscellaneous - Unless otherwise noted, the TRANSACTION_STATUS will be **0**.		
900209	Transaction verification failed (phase 2)	Indicates the verification data returned from MasterCard SecureCode / Verified-by-Visa has been altered.
900210	Authentication complete; transaction must be restarted	Indicates that the MasterCard SecureCode / Verified-by-Visa transaction has already been completed. Most likely caused by a customer clicking the refresh button.
990024	Duplicate Transaction Detected. Please check before submitting	
990028	Transaction cancelled	Customer clicks the 'Cancel' button on the payment page.
990030	PaySubs transaction successfully loaded	Only returned if the PROCESS_NOW field is NO. TRANSACTION_STATUS will be 5.

Transaction Codes

Transaction Code	Description
0	Not Done
1	Approved
2	Declined
5	Received by PayGate

MasterCard SecureCode / Verified by Visa Authentication Indicator

Code	Description	Comment
N	Not Authenticated	Authentication was attempted but NOT successful. Merchant does NOT receive charge back protection for this transaction.
A	Authenticated	Authentication was attempted and was successful. Merchant does receive charge back protection for this transaction.
X	Not Applicable	Authentication processing NOT enabled on PayGate account or unexpected error in authentication process. Merchant does NOT receive charge back protection for this transaction.