PAYGATE®

PayHost

September 2015

Version 1.6.2

Version History

Version	Date	Comment
1.0	March 2013	Document created
1.1	May 2013	WebPayment Request & PaymentType included; Status Response updated to make use of new PaymentType.
1.2	July 2013	Added Billing Descriptor optional field.
1.3	August 2013	Added further information to Redirect To PayGate section.
1.4	August 2013	Updated changes to fields returned in the Status Details (StatusType) object
1.5	October 2014	Added Single Payout, Void, Settlement and Refund request. Added fields to StatusType Complex type.
1.6	October 2014	Added PayVault CardVault, LookupVault, DeleteVault requests. Added PayVault fields to CardPaymentRequest requests and responses.
1.6.1	March 2015	Updated test account details
1.6.2	September 2015	Added TokenPayment request. Added Transaction Status codes. Added additional information for Refund and Query follow up request.

Introduction

PayHost is a secure PCI compliant payment system hosted by PayGate. A single integration to PayHost gives you access to multiple payment methods and PayGate is continually adding to the list of available payment methods. Please confirm with our Support team at support@paygate.co.za which payment methods and financial institutions are currently supported in your country.

PayHost allows merchants to integrate into the PayGate system via a 'host-to-host' service and make use of a number of different payment methods, risk services and PCI compliant credit card data storage. PayHost also allows payments to be processed via a redirect to a PayGate-hosted secure payments page.

A payment encryption service such as Visa Checkout is also compatible with PayHost and can be used for customers to authenticate and authorise their payments before a transaction is processed. This encrypted data can then be sent to PayGate for processing in place of card details using the TokenPayment request type. Please contact PayGate to confirm whether Visa Checkout is compatible with your acquiring bank.

PayHost provides an ideal payment processing solution to applications for online shopping, call-centres, vending machines or any application requiring fast and reliable payment processing using the Internet as a transport layer.

PayHost Applications

PayHost is a 'host-to-host' integration which makes it ideal for any application where there is internet connectivity. This includes but is not limited to web applications, ticketing systems, applications for mobile phones or vending machines.

Integration Options

PayHost can be used in any environment that allows data to be transferred over a HTTPS connection.
SOAP is used as the message transport language for PayHost.
A merchant can integrate into PayHost using any programming language that supports SOAP calls.

Some suggested programming languages are:
- Java
- .Net

PayHost Technical Details

PayHost uses the following URLs:

All messages for the PayHost service must be posted to :
https://secure.paygate.co.za/payhost/process.trans

The WSDL for PayHost is : **https://secure.paygate.co.za/payhost/process.trans?wsdl**

PayGate account setup options – per PayGateID

The following parameters are configured for each PayGate account (i.e. per PayGateID). These are agreed and pre-set when your account with PayGate is configured by our Support team.

Password & Card Types Accepted
Merchants are given access to the PayHost configuration page (via the PayGate Back Office) where they set the following options:
- The PayHost password that is passed in the message header.
- Choose which credit card brands to accept. MasterCard and Visa are enabled by default.

Auto-Settle : Default is ON
Applies to : Credit card processing.

With this option enabled, you do not need to send a Settlement request for an approved Authorisation. As soon as the bank approves the Authorisation, PayGate immediately and automatically creates the Settlement transaction on your behalf. This option is enabled by default

Process Unauthenticated Transactions: Default is OFF
Applies to : Credit card processing with a 3D Secure integration.

For merchants with 3D Secure enabled on their PayGate ID, any MasterCard or Visa transaction that is not authenticated through Verified-by-Visa / MasterCard SecureCode is declined and not sent to the bank for authorisation. Enabling this option allows the merchant to send unauthenticated transactions to the bank for authorisation. The option is disabled by default and we discourage merchants from enabling this option, as they will not receive chargeback protection on fraudulent transactions.

PayProtector: Default is Not Activated
Applies to : Credit card processing.

PayProtector is PayGate's fraud and risk system, designed to help the merchant minimise the risk of loss from fraudulent transactions. Fraud has become a serious problem and often adds significant costs for internet merchants. PayProtector scrutinises transactions from a number of angles combining internal, local and international information to identify, report on, and / or block fraudulent transactions.

Please contact support@paygate.co.za if you would like more information on PayProtector.

Payment Confirmation : Default is Activated with no Bcc
Applies to : Transaction processing in the Redirect Solution.

By default PayGate will send a Payment Confirmation email to the customers email address for each approved transaction. If this functionality is not required then it can be switched off per PayGateID. By default nobody is blind copied (Bcc) on payment confirmation emails, but if required a merchant may provide an email address which will be Bcc'd on each payment confirmation email sent.

Setup options when more than one payment method is activated

Applies to : Transaction processing in the Redirect Solution.

PayGate allows merchants to have multiple terminals, each with their own unique PayGateID.
Each terminal has access to the PayGate Back Office admin website and all transactions processed by PayGate using a particular PayGateID are visible in the corresponding Back Office website. Reports can be viewed in the back office or downloaded into MS Excel (or similar) applications for offline reporting.

A merchant with multiple payment methods can choose to either:
a) have multiple payment methods all activated on a single PayGateID or,
b) to have multiple PayGateID's with a single payment method active per PayGateID or,
c) to have multiple payment methods activated on a single PayGateID and specify for each transaction which payment methods should be visible to the client (using the PaymentMethod and PaymentMethodDetail fields to control this).

If option a) is chosen, then PayHost will display a menu of payment options to the client. The client will choose how (s)he wants to pay and select the relevant menu option.
If option b) is chosen, then the client will be taken directly to the relevant payment page.
If option c) is chosen, then a menu of payment options will be shown only if more than one payment method meets the criteria specified in the PaymentMethod and PaymentMethodDetail fields for the transaction.

Payment Methods

Card Processing
The payment request transaction reserves the specified amount on the supplied credit card, but does not move the funds from the credit card account to the merchants account. To move the funds you must either process a Settlement transaction or get PayGate to turn on the AutoSettle option when your PayGateID is created. Note that Auto Settle is switched ON by default. (Refer to the PayGate account setup options).

A payment request transaction becomes more complicated if 3D Secure authentication is required.

PayHost caters for 3 approaches to 3D secure:-
i   No 3D Secure
ii   3D Secure using PayGate's 'Merchant Plug In' (MPI)
iii   3D Secure using the merchant's MPI

Process Flow Diagram – Card Payment
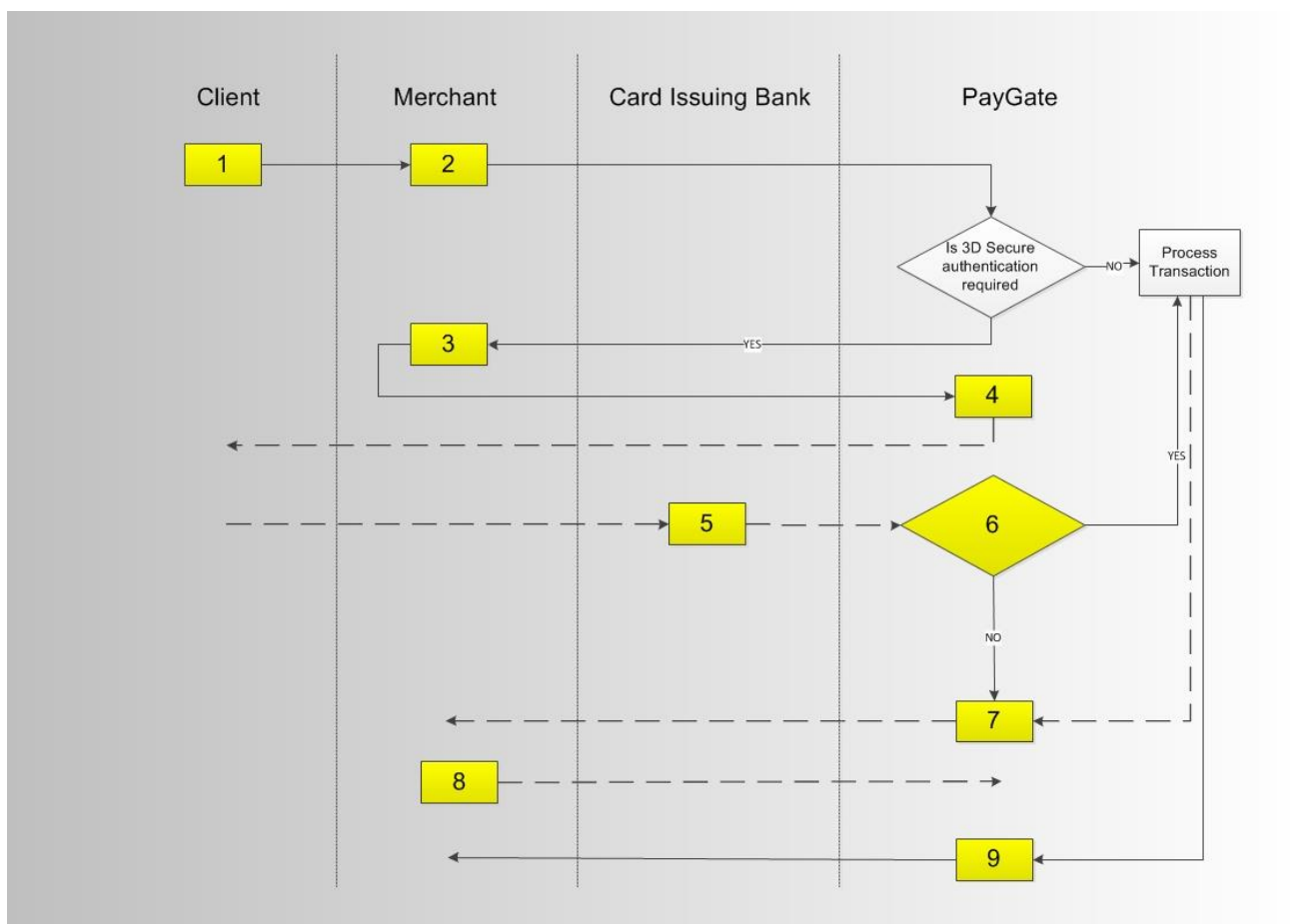
Steps in the payment request process

1. Customer enters card details on the merchant's web site / system.
2. Merchant sends a payment request message to PayHost.
The following steps are only required if a "Secure" message is received in step 3.
3. The merchant is required to redirect the customer's internet browser to PayGate's MPI. (Refer to "3D Secure using PayGate's MPI" for more detail).
4. PayGate re-directs the customer to the appropriate issuing bank 3D Secure authentication page. Customers will be required to enter a PIN code / password known only to themselves and their bank in order to authenticate them.
5. The issuing bank 3D Secure authentication page will redirect the customer's browser back to PayGate.
6. If the message received from the issuing bank (in step 6) is valid, then PayGate processes the transaction to the acquiring bank and sends a payment notification message to the merchant (if the merchant has specified a NotifyUrl)..
7. The Merchant website responds with the word 'OK' to PayGate.
8. PayGate redirects the customer's browser back to the merchant's website so that the merchant can complete the order process. (Refer to "Redirect to website" for more detail).

The following step follows on from step 3.
9. The transaction is processed to the acquiring bank and the result is returned.

Process Flow Diagram – Web Payment

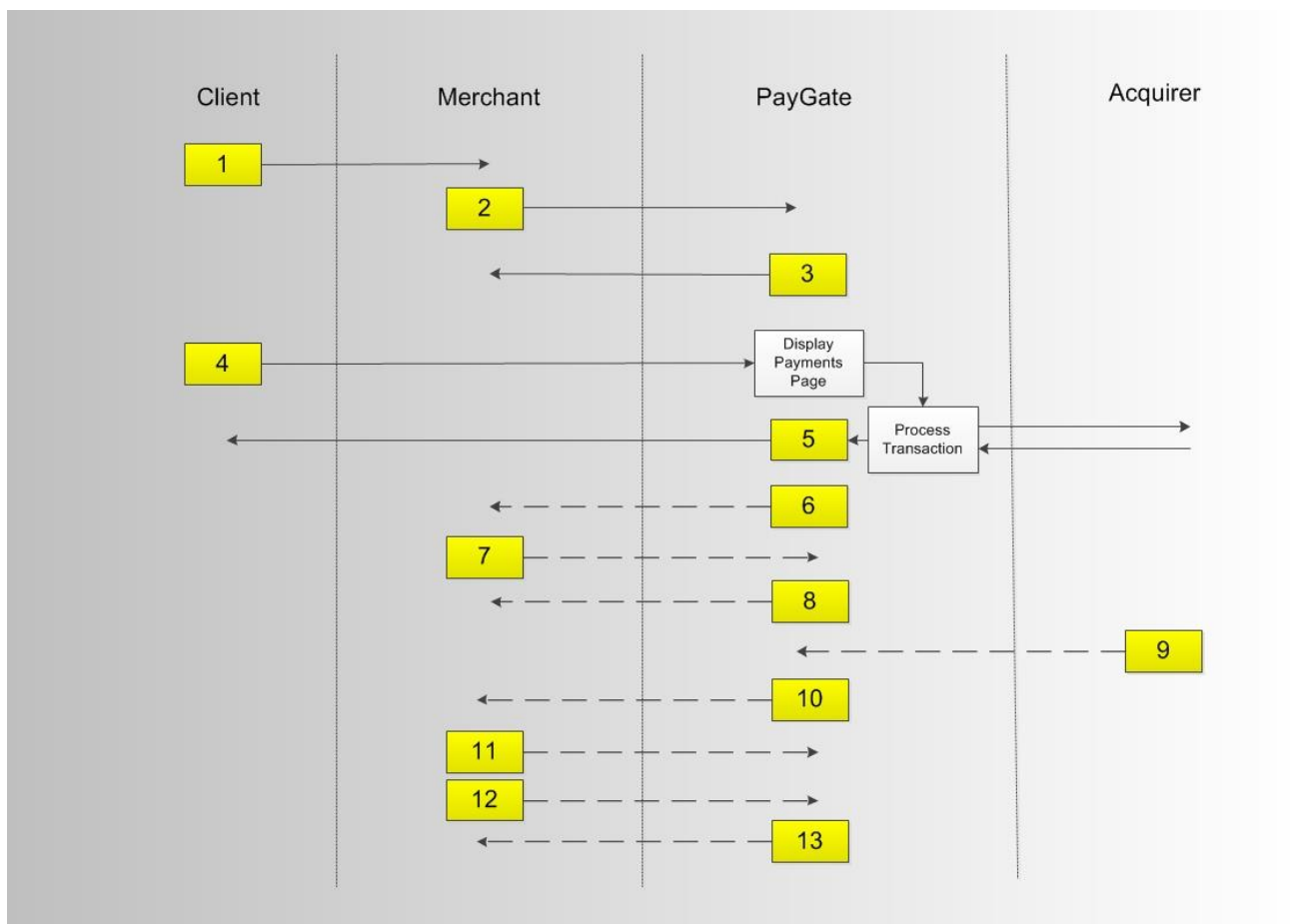## Steps in the payment request process

1. Customer initiates payment on merchant's website.
2. Merchant sends a web payment request message to PayGate.
3. PayGate responds with the PayGate payment page URL that the merchant.
4. The merchant is required to redirect the customer's internet browser to the PayGate payments page.
5. Once the client has completed the payment the customer is redirected back to the merchant's website.
6. PayGate sends a notification to the Merchant's system confirming that the payment has been processed
7. The merchant sends PayGate a Query request for the transaction.
8. PayGate responds with the transaction's current status.

The following only applies for asynchronous payment methods where the final transaction status is received from the acquirer after the online payment process is completed.
9. PayGate receives notification of the transaction's final status from the relevant acquirer.
10. PayGate sends a notification to the merchant's notification URL that the final status has been received.
11. The merchant's system responds with 'OK' to acknowledge receipt of the notification.
12. The merchant's system sends PayGate a Query request for the transaction.
13. PayGate responds with the transaction's final status as received from the acquirer.

Process Flow Diagram – Token Payment
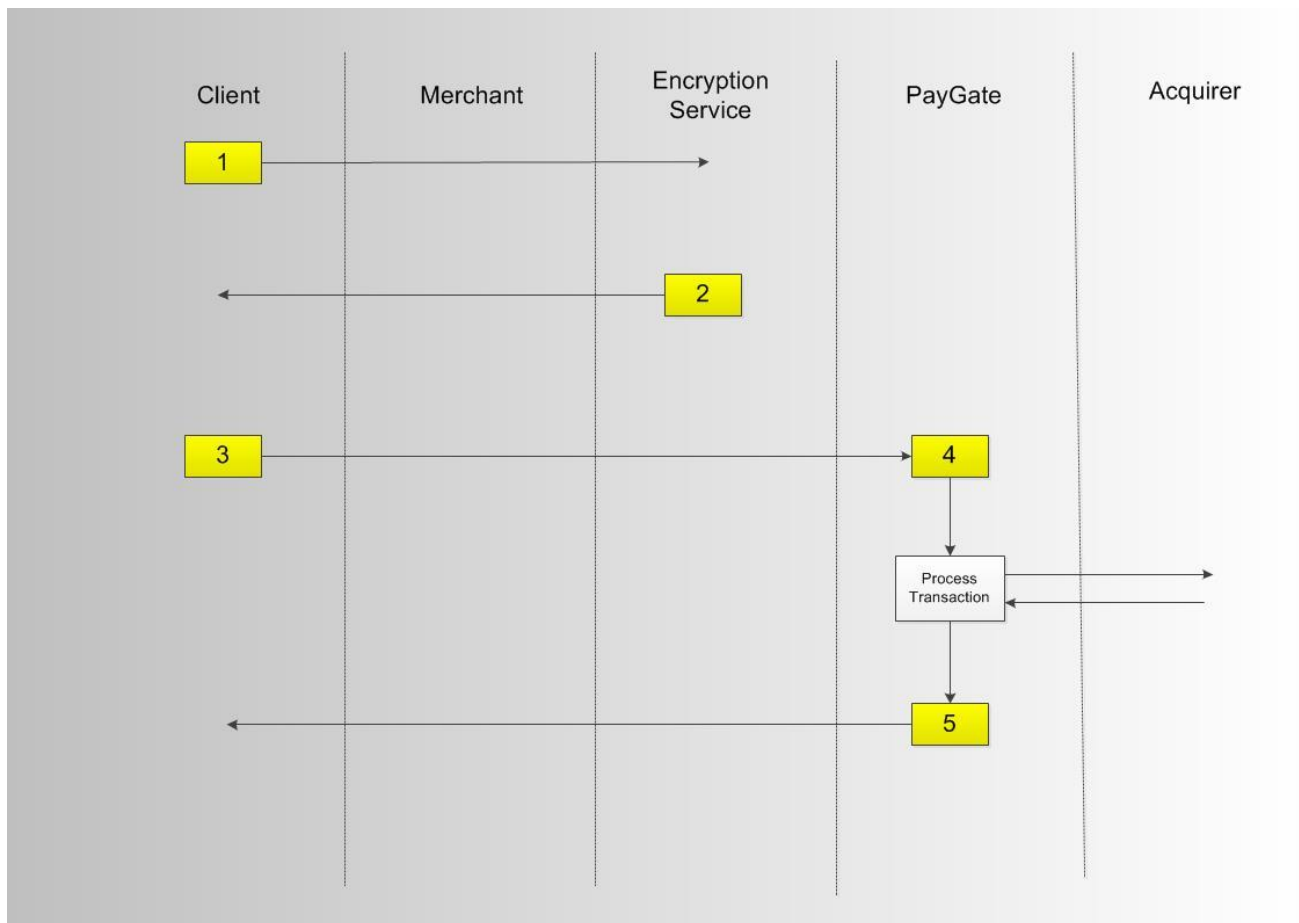
Steps in the payment request process

1. Customer is redirected to the payment encryption service provider to authorise and authenticate the transaction.
2. The payment encryption service provider sends the merchant encrypted data for the payment.
3. The merchant sends the relevant encrypted data to PayGate along with other transaction data.
4. PayGate decrypts the data received and processes the authorisation to the acquiring bank.
5. Once the acquiring bank has responded with the authorisation status PayGate sends this response to the merchant.

Message Types

Request:

PayGate Account Details (*PayGateAccountType*)

Field	Type	Required
PayGateId Your PayGateID – assigned by PayGate.	Number(11)	Yes
Password Your password. The password is set by the merchant in the PayGate back office. The password you send with each transaction must correspond to the value set in the back office.	Varchar(32)	Yes

Risk Details (*RiskType*)

Field	Type	Required
AccountNumber An account number/unique ref number at the Merchant associated with the individual who is transacting with the merchant.	Varchar(30)	No – *Unless Fraud and Risk screening is activated*
SessionId Web server generated id	Varchar(255)	No
IpV4Address The customer's ip v4 address. This attribute is required if the merchant is subscribed to PayProtector.	Varchar(15)	No – *Unless PayProtector or Fraud and Risk screening is activated*
IpV6Address The customer's ip v6 address. This attribute is required if the merchant is subscribed to PayProtector.	Varchar(15)	No – *Unless PayProtector or Fraud and Risk screening is activated*
UserId This is a Merchant configurable data field typically used to identify a customer uniquely within the system, regardless of the amount of accounts that the customer has.	Varchar(36)	No
MachineId This is an ID used to identify the computer (actual hardware) uniquely within the system, regardless of the amount of customers or accounts that's using the computer. Examples of the User Machine ID are Motherboard ID, Hard drive ID, CPU ID, etc.	Varchar(255)	No
UserProfile1 This is a customizable field that may be used by the merchant to supplement fraud screening processes according to a risk classification set by the merchant. (e.g. VIP flag, Indication whether the transaction is part of a promotion, a confidence level around the identity of the customer, etc.)	Varchar(20)	No
UserProfile2 This is a customizable field that may be used by the merchant to supplement fraud screening processes according to a risk	Varchar(20)	No

classification set by the merchant. (See above examples.)		
UserProfile3 This is a customizable field that may be used by the merchant to supplement fraud screening processes according to a risk classification set by the merchant. (See above examples.)	Varchar(20)	No
ConsumerWatch Register the consumer associated with this transaction for the consumer product. possible values: Y = Yes N = No	Char(1)	No
Browser Contains a complex type of browser fields		Refer to ***BrowserType*** section for further details

Customer Details (*PersonType*)

Field	Type	Required
Title Customer's title	Varchar(5)	No
FirstName Customer's first name. Note: The *combined* length of the *FIRST_NAME, MIDDLE_NAME* and *LAST_NAME* fields should not exceed 50 characters	Varchar(50)	Yes
MiddleName Customer's last name. Note: The *combined* length of the *FIRST_NAME, MIDDLE_NAME* and *LAST_NAME* fields should not exceed 50 characters	Varchar(50)	No
LastName Customer's last name. Note: The *combined* length of the *FIRST_NAME, MIDDLE_NAME* and *LAST_NAME* fields should not exceed 50 characters	Varchar(50)	Yes
Telephone1 Customer's telephone number e.g. "+27 21 9991234"	Varchar(45)	No - *Unless Fraud and Risk screening is activated*
Telephone2 Customer's alternative telephone number.	Varchar(45)	No
Mobile Customer's mobile phone number.	Varchar(45)	No
Fax Customer's fax number.	Varchar(45)	No
Email1 The customer's email address.	Varchar(255)	Yes
Email2 The customer's alternate email address.	Varchar(255)	No
DateOfBirth Customer's date of birth.	Number(8) ddmmyyyy	No

e.g. 01 Jan 2013 will be 01012013		
Nationality Customer's nationality. Refer to Appendix A for valid country codes. e.g. If the customer is living in London, then the country code would be set to GBR.	Char(3)	No
IdNumber Customer's ID, Passport or other verification document number.	Varchar(40)	No
IdType A code that defines the type of verification document supplied. possible values: 1 = Passport 2 = Personal ID 3 = Identity Card 4 = Driver's License 5 = Other 8 = Travel Document 12 = Residence Permit 13 = Identity Certificate 16 = Registro Federal de Contribuyentes 17 = Credential de Elector 18 = DNI 19 = NIE 20 = CPR Number	Number(2)	No
SocialSecurityNumber Social Security Number (US Residents). Last 4 digits of the SSN	Number(4)	No
Address Contains a complex type of address fields		Refer to ***AddressType*** section for further details

Browser Details (*BrowserType*)

Field	Type	Required
UserAgent USER_AGENT of the browser used	Varchar(255)	No
Language Language of the browser used	Varchar(30)	No

Address Details (*AddressType*)

Field	Type	Required
AddressLine1 Customer's address line 1.	Varchar(60)	Yes
AddressLine2 Customer's address line 2.	Varchar(60)	No
AddressLine3 Customer's address line 3.	Varchar(60)	No

City Customer's city	Varchar(25)	No – *Unless Fraud and Risk screening is activated*
Country Customer's country. Refer to <u>appendix A</u> for valid country codes. e.g. If the customer is living in London, then the country code would be set to GBR.	Char(3)	No – *Unless Fraud and Risk screening is activated*
State Customer's State/Province/District/ County. Note: For USA and Ireland, Canada and the UK, a 2-character code needs to be supplied where the Merchant requests verification services in these countries.	Varchar(25)	No
Zip Customer's zip/postal code.	Varchar(10)	No

Shipping Details (*ShippingDetailsType*)

Field	Type	Required
Customer Contains a complex type of customer fields		Refer to *PersonType* section for further details
Address Contains a complex type of address fields		Refer to *AddressType* section for further details
DeliveryDate Delivery date e.g. 01 Jan 2013 will be 01012013	Number(8) ddmmyyyy	No
DeliveryMethod Method of delivery	Varchar(30)	No
InstallationRequested Indicates whether goods are supplied together with a physical installation. possible values: Y = Yes N = No	Char(1)	No

Billing Details (*BillingDetailsType*)

Field	Type	Required
Customer Contains a complex type of customer fields		Refer to *PersonType* section for further details
Address Contains a complex type of address fields		Refer to *AddressType* section for further details

Order Item Details (*OrderItemType*)

Field	Type	Required
ProductCode Line item's product code. Note: If 1 line item tag's value is populated, all tags must be included	Varchar(50)	No
ProductDescription Line item's product description	Varchar(50)	No
ProductCategory Line item's product category	Varchar(50)	No
ProductRisk Line item's product risk e.g. High, Medium or Low	Varchar(50)	No
OrderQuantity Line item's order quantity	Number(11)	No
UnitPrice Line item's unit price e.g. R32.95 would be specified as 3295	Number(11)	No
Currency Currency code of the currency the customer is paying in. Refer to appendix A for valid currency codes	Char(3)	No

Order Details (*OrderType*)

Field	Type	Required
MerchantOrderId This is your reference number for use by your internal systems. e.g. Your Customer, Invoice or Order Number.	Varchar(80)	Yes
Currency Currency code of the currency the customer is paying in. Refer to appendix A for valid currency codes	Char(3)	Yes
Amount Transaction amount in cents. e.g. R32.95 would be specified as 3295	Number(11)	Yes
Discount Discount amount in cents. e.g. R32.95 would be specified as 3295 Note: This amount will not be deducted from the amount field.	Number(11)	No

This value is passed to the Fraud and Risk screening service if the merchant is making use of the service.		
TransactionDate 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) e.g. 2013-01-01T18:30:00+02:00	Varchar(19) [-]CCYY-MM-DDThh:mm:ss[Z|(+|-)hh:mm]	Yes
BillingDetails Contains a complex type of billing fields		Refer to *BillingType* section for further details
ShippingDetails Contains a complex type of shipping fields		Refer to *ShippingType* section for further details
OrderItems1 Contains a complex type of order item fields Can contain multiple		Refer to *OrderItemType* section for further details
Locale Customer locale of type Language		Refer to *LanguageType* section for further details

Passenger Details *(PassengerType)*

Field	Type	Required
Passenger Contains a complex type of customer fields		Refer to *PersonType* section for further details
TravellerType The type of passenger travelling, e.g. Adult, Child, Infant. possible values: A = Adult C = Child I = Infant	Char(1)	Yes
LoyaltyNumber Passenger's loyalty scheme number.	Varchar(20)	No
LoyaltyType Passenger's loyalty scheme (e.g. .... Voyager,)	Varchar(20)	No
LoyaltyTier Passenger's loyalty scheme status or level possible values: 1 = highest tier level e.g. platinum 2 = second highest tier level e.g. gold 3 = third highest tier level e.g. silver…,etc.	Number(3)	No

Flight Leg Details (*FlightLegType*)

Field	Type	Required
DepartAirport Departure point airport. Note: this is a 3 character code that needs to be supplied. These values must belong to the airport list in the lookup table that is created. An appendix will be created for the API.	Char(3)	Yes
DepartCountry Departure Country. Refer to appendix A for valid country codes. e.g. If the customer is living in London, then the country code would be set to GBR.	Char(3)	Yes
DepartDateTime Local Date & time of scheduled departure.	Datetime Format yyyy-mm-dd hh:mm:ss	Yes
DepartAirportTimeZone Local time zone, GMT +/- hours. example: +01:00	Time format (+/-hh:mm)	No
ArrivalAirport Arrival point. Note: this is a 2 character code that needs to be supplied, these values must belong to the airport list in the lookup table that is created, and an appendix will be created for the API.	Char(3)	Yes
ArrivalCountry Arrival Country. Refer to appendix A for valid country codes. e.g. If the customer is living in London, then the country code would be set to GBR.	Char(3)	Yes
ArrivalDateTime Local Date & time of scheduled arrival.	Datetime Format yyyy-mm-dd hh:mm:ss	Yes
ArrivalAirportTimeZone Local time zone, GMT +/- hours. example: +01:00	Time format (+/-hh:mm)	No
Carrier Flight carrier for the journey. Note: this is a 2 character code that needs to be supplied. The values must belong to the carrier list in the lookup table.	Char(2)	Yes
FlightNumber Flight number for the journey. (Data Capture – not fed into rules engine)	Char(4)	Yes
FareBasisCode The fare basis code provides information about the specific fare in addition to the class of service required for booking. example: HL7LNR	Char(10)	No
FareClass Class of flight. example: F (=Unrestricted First Class) FR (=Restricted First Class) F (=Unrestricted Business Class) CR (=Restricted Business Class)	Char(3)	No

Y (=Unrestricted Coach/Economy Class) YD (=Restricted Coach/Economy Class) (Data Capture – not fed into rules engine)		
BaseFare The amount of the transaction, excluding taxes and fees, in the smallest unit of the currency i.e. cents or pence. (e.g. US$100.01 = 10001 OR ¥100 = 100). (Data Capture – not fed into rules engine. For reporting/review purposes. Fraud screening and related velocity calculations will initially be based upon the total value of the purchase transaction)	Number(11)	Yes
BaseFareCurrency This is the ISO numeric code for the currency in which the transaction should be processed. See Appendix 7.3 for applicable codes. This is mandatory if a base fare is supplied. (Data Capture – not fed into rules engine. For reporting/review purposes)	Char(3)	Yes

Airline Booking Details (*AirlineBookingType*)

Field	Type	Required
TicketNumber The ticket number assigned to the journey.	Varchar(30)	Yes
PayerTravelling An indication whether the person paying is also travelling on the ticket. possible values: Y = Yes N = No	Char(1)	No
PNR Passenger Name Record	Varchar(10)	Yes
Passengers Contains a complex type of Passenger fields	PassengerType	Yes
FlightLegs Contains a complex type of Flight Leg fields	FlightLegType	Yes

Language Details (*LanguageType*)
The "LanguageType" element is used in such elements as "Locale" and "Browser Language".

Field	Type	Required
Language Format to use - [a-zA-Z]{2}|[il]-[a-zA-Z]+|[xX]-[a-zA-Z]{1,8})(-[a-zA-Z]{1,8} e.g. en-US	Varchar(30)	No

User Defined Field Details (*UserDefinedFieldType*)

Field	Type	Required
UserDefinedField1 This field is a placeholder for merchant specific requirements	Varchar(255)	No

UserDefinedField2 This field is a placeholder for merchant specific requirements	Varchar(255)	No
UserDefinedField3 This field is a placeholder for merchant specific requirements	Varchar(255)	No
UserDefinedField4 This field is a placeholder for merchant specific requirements	Varchar(255)	No
UserDefinedField5 This field is a placeholder for merchant specific requirements	Varchar(255)	No

Redirect Details (*RedirectRequestType*)

The "NotifyUrl" and "RedirectUrl" are only required if the Merchant is using 3D Secure using PayGate's MPI, Redirect Solution (i.e. *PayGate Hosted Payment Page*) or further details are required for a specific payment method.

Field	Type	Required
NotifyUrl The Notification URL. This is the URL on your site that PayHost will post the final transaction result to. This attribute must only be passed if you intend to use PayHost with 3D Secure using PayGate's MPI or PayHost redirect solution.	Text	Yes - for 3D Secure using PayGate's MPI or Redirect Solution
ReturnUrl The Return URL. This is the URL on your site that PayHost will redirect the customer to once the transaction is complete. This attribute must only be passed if you intend to use 3D Secure using PayGate's MPI or PayHost redirect solution.	Text	Yes - for 3D Secure using PayGate's MPI or Redirect Solution

3D Secure Details (*ThreeDSecureType*)

The "ThreeDSecureType" element should **only** be included when the Merchant has used their own MPI server to further Authenticate the Card Holder for MasterCard SecureCode / Verified-by-Visa.

Field	Type	Required
Enrolled Enrolled status e.g. Y - Yes N - No	Char(1)	Yes
Paresstatus Pares status e.g. Y - Yes N - No	Char(1)	Yes
Eci The relevant ECI indicator	Varchar(3)	Yes
Xid The Base64 encoded transaction identifier	Text	Yes
Cavv The Base64 encoded cardholder authentication verification value	Text	Yes

Payment Details (*PaymentType*)

Field	Type	Required
Method This field contains a code describing/confirming the payment method used to process the transaction. It is especially useful where the merchant has more than one payment method activated. Refer to the Payment Method Codes table for a complete list.	Varchar(2)	Yes
Detail This field may contain a description of the PaymentMethod code. For instance if the Method is 'CC' to indicate credit card, then the Detail will contain the type of credit card used 'MasterCard', 'Visa' etc. If the Method is something generic such as 'EW' = eWallet, then the Detail field will contain the name of the eWallet.	Varchar(80)	No

Card Payment Details (*CardPaymentRequestType*)

Field	Type	Required
Account PayGate account details	PayGateAccountType	Yes
Customer Customer details	PersonType	Yes
CardNumber Card number	Number(19)	Yes
CardExpiryDate Expiry date e.g. Jan 2020 will be 012020	Number(6) mmyyyy	Yes
CardIssueDate The issue date of the Customer's debit card. e.g. Jan 2012 will be 012012	Number(6) mmyyyy	Yes - If payment is being made using a Debit Card
CardIssueNumber The Issue number of the customer's Debit Card	Number(3)	Yes - If payment is being made using a Debit Card
VaultId This field is optional and should only be included if PayVault tokenisation is enabled. If a PayVault token GUID is sent the credit card transaction will be processed using the credit card associated with the token. A credit card CVV value will still be required. 3D Secure authentication may also be required.	Varchar(40)	No
CVV Three or four digit CVV/CVC2 check digit from the back(Visa/MasterCard) or front (Amex/Diners) of the card.	Number(4)	Yes
Vault This field is optional but should only be included if PayVault credit card tokenisation is enabled on the merchant profile. This field is used to indicate whether a PayVault token should be issued for the credit card used to make the payment. If True the credit card number will be added to PayVault and the associated Token will be returned in the response to the merchant. If not included the value is assumed to be False.	True/False	No
BudgetPeriod Set this field to 0 if the purchase is not on budget. Budget Period is applicable to South African cards only.	Number(2)	Yes
Redirect Contains a complex type of redirect fields	RedirectRequestType	Yes - for 3D Secure using PayGate's MPI or Redirect Solution
Order Contains a complex type of order fields	OrderType	Yes
ThreeDSecure Only append this element if you are using your own 3D Secure MPI. Make sure you do not pass any values in the "Redirect" attribute. Append this element containing the following fields to the payment processing message. (Refer to the example '3D secure using your own MPI' below.)	ThreeDSecureType	No

Risk Contains a complex type of risk fields	RiskType	No – *Unless Fraud and Risk screening is activated*
BillingDescriptor Value that must be passed to the acquirer to display on the customer's bank or account statement. Please note that this is not supported for all acquirers.	Varchar(45)	No – *Will be ignored if not supported by acquirer*
UserDefinedField Contains a complex type of user defined fields	UserDefinedFieldType	No

Example of a Card Request:

```
<SinglePaymentRequest>
   <CardPaymentRequest>
     <Account>
        <PayGateId>10011013800</PayGateId>
        <Password>test</Password>
     </Account>
     <Customer>
       <Title>Mr</Title>
       <FirstName>Joe</FirstName>
       <LastName>Soap</LastName>
       <Telephone>0861234567</Telephone>
       <Mobile>0735552233</Mobile>
       <Email>joe@soap.com</Email>
     </Customer>
     <CardNumber>4000000000000002</CardNumber>
     <CardExpiryDate>122015</CardExpiryDate>
     <CVV>999</CVV>
     <BudgetPeriod>0</BudgetPeriod>
     <!-- 3D secure redirect object -->
     <Redirect>
       <NotifyUrl>https://www.mytestsite.com/notify</NotifyUrl>
       <ReturnUrl>https://www.mytestsite.com/return</ReturnUrl>
     </Redirect>
     <Order>
       <MerchantOrderId>INV101</MerchantOrderId>
       <Currency>ZAR</Currency>
       <Amount>100</Amount>
     </Order>
   </CardPaymentRequest>
</SinglePaymentRequest>
```

Example of a Card Request with Tokenisation Requested:

```
<SinglePaymentRequest>
  <CardPaymentRequest>
    <Account>
      <PayGateId>10011013800</PayGateId>
      <Password>test</Password>
    </Account>
    <Customer>
      <Title>Mr</Title>
      <FirstName>Firstname</FirstName>
      <LastName>Lastname</LastName>
      <Telephone>0211234567</Telephone>
      <Mobile>0873456789</Mobile>
      <Email>first.last@name.com</Email>
    </Customer>
    <CardNumber>5200000000000015</CardNumber>
    <CardExpiryDate>112030</CardExpiryDate>
    <CVV>123</CVV>
    <Vault>true</Vault>
    <BudgetPeriod>0</BudgetPeriod>
    <Order>
      <MerchantOrderId>YourInvoiceNumber1414070780226</MerchantOrderId>
      <Currency>ZAR</Currency>
      <Amount>113</Amount>
    </Order>
  </CardPaymentRequest>
</SinglePaymentRequest>
```

Example of a Card Request Using a Token Instead of a Card Number and Expiry Date:

```
<SinglePaymentRequest xmlns="http://www.paygate.co.za/PayHOST">
  <CardPaymentRequest>
    <Account>
      <PayGateId>10011013800</PayGateId>
      <Password> test</Password>
    </Account>
    <Customer>
      <Title>Mr</Title>
      <FirstName>Firstname</FirstName>
      <LastName>Lastname</LastName>
      <Telephone>0211234567</Telephone>
      <Mobile>0873456789</Mobile>
      <Email>first.last@name.com</Email>
    </Customer>
    <VaultId>eb9c11c5-e564-46e2-a087-2207ab8afadd</VaultId>
    <CVV>123</CVV>
    <BudgetPeriod>0</BudgetPeriod>
    <Order>
      <MerchantOrderId>YourInvoiceNumber1414070789678</MerchantOrderId>
      <Currency>ZAR</Currency>
      <Amount>113</Amount>
    </Order>
  </CardPaymentRequest>
</SinglePaymentRequest>
```

Web Payment Details (*WebPaymentRequestType*)

Field	Type	Required
Account PayGate account details	PayGateAccountType	Yes
Customer Customer details	PersonType	Yes
Redirect Contains a complex type of redirect fields	RedirectRequestType	Yes
Order Contains a complex type of order fields	OrderType	Yes
Risk Contains a complex type of risk fields	RiskType	No – *Unless Fraud and Risk screening is activated*
Payment Only include this element if you have multiple payment methods active on your account and you would like to limit the payment options displayed to your customer. I.e. you have SID & Ukash enabled but for this payment would only like to show the SID option.	PaymentType	No
BillingDescriptor Value that must be passed to the acquirer to display on the customer's bank or account statement. Please note that this is not supported for all acquirers.	Varchar(45)	No – *Will be ignored if not supported by acquirer*
UserDefinedField Contains a complex type of user defined fields	UserDefinedFieldType	No

Example of a Web Payment Request:

```
<WebPaymentRequest>
    <Account>
      <PayGateId>10011013800</PayGateId>
      <Password>test</Password>
    </Account>
    <Customer>
      <Title>Mr</Title>
      <FirstName>Joe</FirstName>
      <LastName>Soap</LastName>
      <Email>joe@soap.com</Email>
    </Customer>
    <Redirect>
      <NotifyUrl>https://www.mytestsite.com/notify</NotifyUrl>
      <ReturnUrl>https://www.mytestsite.com/return</ReturnUrl>
    </Redirect>
    <Order>
      <MerchantOrderId>INV101</MerchantOrderId>
      <Currency>ZAR</Currency>
      <Amount>100</Amount>
      <TransactionDate>2014-04-06 10:28:39</TransactionDate>
    </Order>
</WebPaymentRequest>
```

Token Payment Details (*TokenPaymentRequestType*)

Field	Type	Required
Account PayGate account details	PayGateAccountType	Yes
Customer Customer details	PersonType	Yes*
Token The data provided by the payment encryption service provider.	Text	Yes
TokenDetail The description of the payment encryption service used e.g. Visa Checkout = VCO	Varchar	Yes
Vault This field is optional but should only be included if PayVault credit card tokenisation is enabled on the merchant profile. This field is used to indicate whether a PayVault token should be issued for the credit card used to make the payment. If True the credit card number will be added to PayVault and the associated Token will be returned in the response to the merchant. If not included the value is assumed to be False.	True/False	No
Order Contains a complex type of order fields	OrderType	Yes
BillingDescriptor Value that must be passed to the acquirer to display on the customer's bank or account statement. Please note that this is not supported for all acquirers.	Varchar(45)	No – *Will be ignored if not supported by acquirer*
UserDefinedField Contains a complex type of user defined fields	UserDefinedFieldType	No

*Important Note : Customer details only required based on the information available via the token. PayGate will advise which token detail requires customer information to be passed through.

Note for Visa Checkout method: All customer, shipping and billing details will be populated using data received from the Visa Checkout token unless customer and shipping details are passed through in the request, then this data will be used. Billing details will always be populated using Visa Checkout data.

Example of a Token Request:

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:pay="http://www.paygate.co.za/PayHOST">
  <soapenv:Header/>
  <soapenv:Body>
    <pay:SinglePaymentRequest>
      <pay:TokenPaymentRequest>
        <pay:Account>
          <pay:PayGateId>10011072130</pay:PayGateId>
          <pay:Password>test</pay:Password>
        </pay:Account>
        <pay:Token>2258098676320541501</pay:Token>
        <pay:TokenDetail>VCO</pay:TokenDetail>
        <pay:Order>
          <pay:MerchantOrderId>Reference</pay:MerchantOrderId>
          <pay:Currency>ZAR</pay:Currency>
          <pay:Amount>1000</pay:Amount>
        </pay:Order>
      </pay:TokenPaymentRequest>
    </pay:SinglePaymentRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

Response

Status Name Details *(StatusNameType)*

Field
Error
Pending
Cancelled
Completed
ValidationError
ThreeDSecureRedirectRequired
WebRedirectRequired

Status Details (*StatusType*)

Field	Type	Required
TransactionId The unique reference number assign by PayGate to this transaction.	Number(11)	Yes
Reference This is your reference number for use by your internal systems. We return the MerchantOrderId you passed to us in the payment request. e.g. Your Customer, Invoice or Order Number.	Varchar(80)	Yes
AcquirerCode This is the transaction status code returned by the acquirer.	String	No
StatusName Status. Refer to the transaction status table.	StatusNameType	Yes
StatusDetail Returns further detail relating to the **StatusName** returned	Varchar(80)	No
AuthCode The Authorisation code returned by the acquirer (bank).	Varchar(10)	No
PayRequestId The unique reference for the payment request	Varchar(36)	No
VaultId This is the PayVault token associated to the card used to make the payment. This Vault ID can be re-used to process payments on the card. Only the PAN and Expiry Date are linked to this token. This is an optional field and is only returned if PayVault tokenisation is requested.	String	No
VaultData1 This field contains information on the credit card or e-wallet account linked to the PayVault token for the purpose of managing the use of the token. This is an optional field and is only returned if PayVault tokenisation is requested.	Varchar(50)	No

VaultData2 This field contains information on the credit card or e-wallet account linked to the PayVault token for the purpose of managing the use of the token. This is an optional field and is only returned if PayVault tokenisation is requested.	Varchar(50)	No
TransactionStatusCode Transaction status. Refer to the transaction status table.	Number(1)	Yes
TransactionStatusDescription Transaction status description.	Varchar(80)	Yes
ResultCode Result Code. Refer to the result code table.	Number(11)	Yes
ResultDescription Result Code description.	Varchar(80)	Yes
Currency Currency code of the currency the customer is paying in. Refer to appendix A for valid currency codes	Char(3)	Yes
Amount Transaction amount in cents. e.g. R32.95 would be specified as 3295	Number(11)	No
RequestedCurrency The currency code in original request Refer to Appendix A for valid currency codes	Char(3)	No – Only returned if PayFX currency conversion is used
RequestedAmount The amount of the original request in cents	Number(11)	No – Only returned if PayFX currency conversion is used
ConversionRate Conversion rate used, i.e. 10.40492	Decimal	No – Only returned if PayFX currency conversion is used
RiskIndicator This is a 2-character field containing a risk indicator for this transaction. The first character describes Verified-by-Visa / MasterCard SecureCode authentication. Refer to the Authentication Indicator table for possible values. The second character is for future use and will be set to 'X'.	Char(2)	Yes
Payment The payment method type used in the transaction	PaymentType	Yes
BillingDescriptor Value that must be passed to the acquirer to display on the customer's bank or account statement. Please note that this is not supported for all acquirers.	Varchar(45)	No – *Will be not be returned if not supported by acquirer*
UserDefinedField Contains a complex type of user defined fields	UserDefinedFieldType	No

Redirect Response Details (*RedirectResponseType*)

The data in a Redirect Response message will contain a URL that the Merchant will be required to redirect the Customer to. There will also be a list of Key/Value pairs returned. A merchant should iterate through all the Key/Value pairs as all these will need to be included in the POST message when redirecting the Customer to the PayGate Payment Page.

Refer to the "*Redirect To PayGate*" section for further details on ways to redirect the Customer to the PayGate Payment Page.

Field	Type	Required
RedirectUrl URL that the merchant needs to redirect the customer to. Refer to section "Redirect To PayGate" for further details.	Text	Yes
KeyValuePairs KeyValuePairs is an unbounded list of KeyValue pairs that could be returned. Each Key/Value pair will be enclosed in a UrlParams element. A merchant needs to loop through all Key/Value returned and pass these to the Url returned. e.g. Key = PayGateId Value = 10011013800 <ns2:UrlParams> <ns2:key>PAYGATE_ID</ns2:key> <ns2:value>10011013800</ns2:value> </ns2:UrlParams>	Text	Yes

Single Payment Response (Non-redirect)

Field	Type	Required
Status A full transaction detail response will be returned	StatusType	Yes

Example of a response where no redirect is required:

```
<SinglePaymentResponse xmlns="http://www.paygate.co.za/PayHOST">
    <CardPaymentResponse>
      <Status>
          <TransactionId>28791836</TransactionId>
          <Reference>YourInvoiceNumber1414070789678</Reference>
          <AcquirerCode>00</AcquirerCode>
          <StatusName>Completed</StatusName>
          <AuthCode>FU6FWP</AuthCode>
          <PayRequestId>A23EF01C-D1E7-4F77-B50D-CEE28B3D4ACC</PayRequestId>
          <TransactionStatusCode>1</TransactionStatusCode>
          <TransactionStatusDescription>Approved</TransactionStatusDescription>
          <ResultCode>990017</ResultCode>
          <ResultDescription>Auth Done</ResultDescription>
          <Currency>ZAR</Currency>
          <Amount>113</Amount>
          <RiskIndicator>XX</RiskIndicator>
          <PaymentType>
             <Method>CC</Method>
             <Detail>MasterCard</Detail>
          </PaymentType>
      </Status>
    </CardPaymentResponse>
</SinglePaymentResponse>
```

Example of a response where no redirect is required and tokenisation was requested:

```
SinglePaymentResponse>
    <CardPaymentResponse>
      <Status>
          <TransactionId>28793400</TransactionId>
          <Reference>YourInvoiceNumber1414583977479</Reference>
          <AcquirerCode>00</AcquirerCode>
          <StatusName>Completed</StatusName>
          <AuthCode>8TDDFD</AuthCode>
          <PayRequestId>B897CD11-D0BE-50E3-68C9-7FB34B5C5C9B</PayRequestId>
          <VaultId>62a083d3-1f7c-474a-bd95-87387323dde0</VaultId>
          <VaultData1>xxxxxxxxxx0015</VaultData1>
          <VaultData2>112030</VaultData2>
          <TransactionStatusCode>1</TransactionStatusCode>
          <TransactionStatusDescription>Approved</TransactionStatusDescription>
          <ResultCode>990017</ResultCode>
          <ResultDescription>Auth Done</ResultDescription>
          <Currency>ZAR</Currency>
          <Amount>113</Amount>
          <RiskIndicator>XX</RiskIndicator>
          <PaymentType>
             <Method>CC</Method>
             <Detail>MasterCard</Detail>
          </PaymentType>
      </Status>
    </CardPaymentResponse>
</SinglePaymentResponse>
```

Single Payment Response (Redirect)
A "redirect" message will be returned if there is a requirement for the Merchant to redirect the Customer to the PayGate Payment page, i.e. further details are required for a specific payment method or transaction requires further authentication (MasterCard SecureCode / Verified-by-Visa), etc..

Note: not all cards require further authentication; American Express, Diners Club, and some banks that issue MasterCard / Visa credit cards do not subscribe to the MasterCard SecureCode / Verified-by-Visa programs.

Refer to the "*Redirect To PayGate*" section for further details on ways to redirect the Customer to the PayGate Payment Page.

Field	Type	Required
Redirect The redirect will contain the URL to where the Merchant needs to redirect the customer as well as Key/Value parameters that need to be included in the post when redirecting the customer.	RedirectResponseType	Yes

Example of a card payment response where a redirect is required:

```
<SinglePaymentResponse>
  <CardPaymentResponse>
   <Status>
    <StatusName>ThreeDSecureRedirectRequired</StatusName>
    <StatusDetail>3D Secure Redirect Required To Complete Transaction</StatusDetail>
   </Status>
   <Redirect>
    <RedirectUrl>https://secure.paygate.co.za/PayHost/redirect.trans</RedirectUrl>
    <UrlParams>
     <key>CHECKSUM</key>
     <value>7fe36c62991df6de51b09db0c6fd6r29</value>
    </UrlParams>
    <UrlParams>
     <key>PAY_REQUEST_ID</key>
     <value>5FC0E808-27EB-7A69-64BF-8163B2837869</value>
    </UrlParams>
    <UrlParams>
     <key>PAYGATE_ID</key>
     <value>10011013800</value>
    </UrlParams>
   </Redirect>
  </CardPaymentResponse>
</SinglePaymentResponse>
```

Example of a web payment response where a redirect is required:

```
<SinglePaymentResponse>
  <WebPaymentResponse>
   <Status>
    <StatusName>WebRedirectRequired</StatusName>
    <StatusDetail>Web Redirect Required To Complete Transaction</StatusDetail>
   </Status>
   <Redirect>
    <RedirectUrl>https://secure.paygate.co.za/PayHost/process.trans</RedirectUrl>
    <UrlParams>
     <key>PAY_REQUEST_ID</key>
     <value>18BBC8A5-FCFC-85AC-5733-F3EC906FD7E9</value>
    </UrlParams>
    <UrlParams>
     <key>PAYGATE_ID</key>
     <value>10011013800</value>
    </UrlParams>
    <UrlParams>
     <key>CHECKSUM</key>
     <value>FBDDDA576EC2A0907FECA5F776C07095</value>
    </UrlParams>
   </Redirect>
  </WebPaymentResponse>
</SinglePaymentResponse>
```

Redirect To PayGate

The data returned in the "Redirect" message the URL and additional data that must be POSTed to the URL. This data could include the PayGate ID, PayRequest ID or Transaction ID, but it is not limited to this.

There are 2 ways in which a merchant can redirect a customer to PayGate. This can either be via a redirect or an HTML IFRAME.

If the merchant makes use of a standard redirect, then they would use a normal form post containing the Keys and Values returned in the [Redirect Response](#) message.
If the merchant makes use of a HTML IFRAME, then they will need to make sure that the Keys and Values returned in the Redirect Response message are posted to the IFRAME. A GET can't be used for posting the data to PayGate.

Important : Please note that the data returned in the "Redirect" message is dynamic based on the Redirect URL and KeyValuePairs returned. Please iterate through each KeyValuePair to retrieve the required data. The example below is one possible set of KeyValuePairs that can be returned and should not be considered the only possible response and format.

Example
Assuming the following values are returned in the "Redirect" message:

URL (URL attribute)	https://secure.paygate.co.za/payhost/redirect.trans
PayGate ID (PAYGATE_ID attribute)	10011013800
Pay Request ID (PAY_REQUEST_ID attribute):	43DF55EE-B30E-295F-1BF2-20EF76E78BEE
Checksum (CHECKSUM attribute):	580554987e830511864189533cec1a39

The Form and IFRAME that is returned to the customer's browser would be:

```
<form action="url of page" name="frmSubmit" id="frmSubmit" method="post" target="iframeID">".
  <input type="hidden" name="PAYGATE_ID" value="10011013800" />
  <input type="hidden" name="PAY_REQUEST_ID" value="43DF55EE-B30E-295F-1BF2-20EF76E78BEE" />
  <input type="hidden" name="CHECKSUM" value="580554987e830511864189533cec1a39" />
</form>

<iframe id="iframeID" scrollbar="auto" ></iframe>
```

Redirect the client back to the merchant's web site

Once the customer has either completed the authentication process or completed the payment (depending on the method chosen), PayGate will redirect the customer back to the merchants website. The URL specified in the ReturnUrl attribute in the original payment request message is where the customer's browser will be redirected. The results of the transaction are posted in hidden fields in an HTML form:

Field	Type	Required
PAY_REQUEST_ID This field contains the PayGate unique reference number for the transaction. It will be the same as passed in the secure message. <input type="hidden" name="PAY_REQUEST_ID" value="7B44FC55-CA90-1922-B32D-00DD010772DB">	Varchar(36)	Yes
TRANSACTION_STATUS The final status of the transaction. Refer to the Transaction Status table for a list of possible values. <input type="hidden" name="TRANSACTION_STATUS" value="1">	Number(1)	Yes
CHECKSUM This field contains a calculated MD5 hash based on the values of the PAYGATE_ID, PAY_REQUEST_ID, TRANSACTION_STATUS, REFERENCE fields and a key. Refer to the Checksum Example below for an example of this calculation.	Varchar(32)	Yes

Checksum Example
Concatenate the PAYGATE_ID, PAY_REQUEST_ID, TRANSACTION_STATUS, REFERENCE AND KEY (no separator characters) to form the source of the MD5 hash:
PAYGATE_ID+PAY_REQUEST_ID+TRANSACTION_STATUS+REFERENCE+KEY
Assuming the KEY is 'secret', the following scenario is possible:
100110138007B44FC55-CA90-1922-B32D-00DD010772DB1Customer1secret
The MD5 hash value for this transaction would be: abbf481a0cda7c08f23183b4a4dcb462
<input type="hidden" name="CHECKSUM" value="abbf481a0cda7c08f23183b4a4dcb462">

3D Secure using PayGate's MPI – more redirect detail

If you sent through a payment type of Credit card (containing all card details) and you received a "Redirect" message, it means MasterCard SecureCode / Verified-by-Visa authentication is required. The customer's browser must be re-directed as described in the "Redirect To PayGate" section.

Completed 3D Secure or Redirect Solution transaction notification - (If a NotifyUrl has been specified)

When/if the customer completes either the authentication process or in some cases when the payment method chosen requires a redirect or in some cases when the payment method is suited to an 'asynchronous' process, PayGate will call the merchants website in order to advise the merchant what the result was. The URL specified in the NotifyUrl attribute in the original payment request message is where the notification will be posted to. The format is identical to what is decided in the "Redirect the client back to the merchant's web site" section.

In the case of a completed 3D Secure or Redirect Solution transaction, PayGate will attempt to post the notification before redirecting the customer back to the Merchant's website. If this post is not successful, then the customer will be redirected anyway (and PayGate will attempt a further 3 times in the background).

In the case of an 'asynchronous' process transaction, if/when PayGate receives a response from the financial service provider stating that the transaction has been completed (or that the transaction status has changed), then PayHost will notify the merchant via the 'NotifyUrl' provided by the merchant.

A notification will also be sent for all transactions not completed within a reasonable time period (generally 30 minutes), i.e. If the customer closes the browser during the authentication process or at any point while PayGate is processing the transaction. In these circumstances the merchant website (at the address specified by the NotifyUrl) will receive a notification after 30 minutes to indicate an incomplete transaction.
The NotifyUrl must return the value 'OK' to indicate that the post was received. If PayHost cannot contact the merchant's NotifyUrl and/or if an 'OK' reply is not received, then PayHost will try to repost the response 2 more times at 30 minute intervals and if no response is received no further attempts to re-post the data will take place.

PayGate Hosted Payment Page

The PayGate Hosted Payment Page allows a Merchant to make use of PayGate's secure payment page. Through PayGate's Secure Payment Page a merchant does not need to integrate to a specific method. The Merchant just redirects the Customer to the PayGate payment page where the Customer will be presented with a list of all Payment Methods that the Merchant has subscribed to.

Single Payout Request

Payout requests allow a Merchant to process pay-outs to their customers. Please note that pay-outs can only be done if the functionality is supported by the relevant acquirer or payment method.

PayGate offers the following "Payout Request Types":

- CardPayout

Card Payout

Card Payout Request (CardPayoutRequest)

Field	Type	Required
Account PayGate account details	PayGateAccountType	Yes
Customer Customer details	PersonType	Yes
CardNumber Card number	Number(19)	Yes
CardExpiryDate Expiry date e.g. Jan 2020 will be 012020	Number(6) mmyyyy	Yes
Order Contains a complex type of order fields	OrderType	Yes

Card Payout Response (CardPayoutResponse)

Field	Type
Status A full transaction detail response will be returned	StatusType

Example of Card Payout Request and Response:

Request

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:pay="http://www.paygate.co.za/PayHOST">
  <soapenv:Header/>
  <soapenv:Body>
    <pay:SinglePayoutRequest>
      <pay:CardPayoutRequest>
        <pay:Account>
          <pay:PayGateId>10011013800</pay:PayGateId>
          <pay:Password>test</pay:Password>
        </pay:Account>
        <pay:Customer>
          <pay:FirstName>Joe</pay:FirstName>
          <pay:LastName>Soap</pay:LastName>
          <pay:Email>joes@example.com</pay:Email>
        </pay:Customer>
        <pay:CardNumber>4000000000000002</pay:CardNumber>
        <pay:CardExpiryDate>052015</pay:CardExpiryDate>
        <pay:Order>
          <pay:MerchantOrderId>order-1234</pay:MerchantOrderId>
          <pay:Currency>ZAR</pay:Currency>
          <pay:Amount>100</pay:Amount>
        </pay:Order>
      </pay:CardPayoutRequest>
    </pay:SinglePayoutRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

Response

```
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <ns2:SinglePayoutResponse xmlns:ns2="http://www.paygate.co.za/PayHOST">
      <ns2:CardPayoutResponse>
        <ns2:Status>
          <ns2:TransactionId>28790220</ns2:TransactionId>
          <ns2:Reference>order-1234</ns2:Reference>
          <ns2:StatusName>Completed</ns2:StatusName>
          <ns2:PayRequestId>741B4BE0-5CCE-530C-901A-D9B691528C2D</ns2:PayRequestId>
          <ns2:TransactionStatusCode>0</ns2:TransactionStatusCode>
          <ns2:TransactionStatusDescription>Not Done</ns2:TransactionStatusDescription>
          <ns2:ResultCode>990006</ns2:ResultCode>
          <ns2:ResultDescription>Request for Payout Received</ns2:ResultDescription>
          <ns2:Currency>ZAR</ns2:Currency>
          <ns2:Amount>100</ns2:Amount>
          <ns2:PaymentType>
            <ns2:Method>CC</ns2:Method>
            <ns2:Detail>VISA</ns2:Detail>
          </ns2:PaymentType>
        </ns2:Status>
      </ns2:CardPayoutResponse>
    </ns2:SinglePayoutResponse>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

Single Vault Request

Vault requests allow merchants to manage what is stored by the PayVault tokenisation service. Please note that currently PayVault only supports the tokenisation of credit card data.

PayGate offers the following Vault Request Types:

- CardVault
- LookupVault
- DeleteVault

Card Vault Request (CardVaultRequest)

Field	Type	Required
Account PayGate account details	PayGateAccountType	Yes
CardNumber Card number	Number(19)	Yes
CardExpiryDate Expiry date e.g. Jan 2020 will be 012020	Number(6) mmyyyy	Yes

Card Vault Response (CardVaultResponse)

Field	Type
StatusName Status. Refer to the transaction status table.	StatusNameType
VaultId The PayVault token GUID corresponding to the credit card number and expiry date that has been added to the database.	String

Example of a CardVault Request and Response:

Request

```
<SingleVaultRequest xmlns="http://www.paygate.co.za/PayHOST">
   <CardVaultRequest>
      <Account>
         <PayGateId>10011013800</PayGateId>
         <Password>test</Password>
      </Account>
      <CardNumber>5200000000000015</CardNumber>
      <CardExpiryDate>112030</CardExpiryDate>
   </CardVaultRequest>
</SingleVaultRequest>
```

Response

```
SingleVaultResponse xmlns="http://www.paygate.co.za/PayHOST">
   <CardVaultResponse>
      <Status>
         <StatusName>Completed</StatusName>
         <VaultId>6eb998d9-b4e8-46b8-9772-90ecb644ab54</VaultId>
      </Status>
   </CardVaultResponse>
</SingleVaultResponse>
```

Lookup Vault Request (LookupVaultRequest)

Field	Type	Required
Account PayGate account details	PayGateAccountType	Yes
VaultId The PayVault token GUID	String	Yes

Lookup Vault Response (LookupVaultResponse)

Field	Type
StatusName Status. Refer to the transaction status table.	StatusNameType
CardNumber The masked card number associated to the PayVault Token. The first 6 and last 4 digits of the card number will be returned.	Varchar(19)
CardExpiryDate Expiry date e.g. Jan 2020 will be 012020	Number(6) mmyyyy

Example of a LookupVault Request and Response:

Request

```
<SingleVaultRequest xmlns="http://www.paygate.co.za/PayHOST">
   <LookUpVaultRequest>
     <Account>
        <PayGateId>10011013800</PayGateId>
        <Password>test</Password>
     </Account>
     <VaultId>c36a13e8-65a0-49fd-a12f-05fe78bf9eaa</VaultId>
   </LookUpVaultRequest>
</SingleVaultRequest>
```

Response

```
<SingleVaultResponse xmlns="http://www.paygate.co.za/PayHOST">
   <LookUpVaultResponse>
     <Status>
        <StatusName>Completed</StatusName>
        <CardNumber>520000xxxxxx0015</CardNumber>
        <CardExpiryDate>112030</CardExpiryDate>
     </Status>
   </LookUpVaultResponse>
</SingleVaultResponse>
```

Delete Vault Request (DeleteVaultRequest)

Field	Type	Required
Account PayGate account details	PayGateAccountType	Yes
VaultId The PayVault token GUID	String	Yes

Delete Vault Response (DeleteVaultResponse)

Field	Type
StatusName Status. Refer to the transaction status table.	StatusNameType

Example of a DeleteVault Request and Response:

Request

```
<SingleVaultRequest xmlns="http://www.paygate.co.za/PayHOST">
   <DeleteVaultRequest>
      <Account>
         <PayGateId>10011013800</PayGateId>
         <Password>test</Password>
      </Account>
      <VaultId>84a49326-d088-497f-9c06-dfe8445c7be2</VaultId>
   </DeleteVaultRequest>
</SingleVaultRequest>
```

Response

```
<SingleVaultResponse xmlns="http://www.paygate.co.za/PayHOST">
   <DeleteVaultResponse>
      <Status>
         <StatusName>Completed</StatusName>
      </Status>
   </DeleteVaultResponse>
</SingleVaultResponse>
```

Follow Up Request

Follow up requests allow a Merchant multiple options after processing has taken place. These can be either Settling a transaction (if a merchant is not setup for AutoSettle), refunding a transaction, querying a transaction status, etc.

PayGate offer the following "Follow Up Request Types":

- Query
- Void
- Refund
- Settlement

Query

The Query function allows you to query the final status of previously processed transactions.
The Query function will accept a PayRequestId, TransId or a Reference as a search key.

Query Request (*QueryRequestType*)

Field	Type	Required
Account PayGate account details	PayGateAccountType	Yes
PayRequestId The PayRequestId is a GUID allocated by PayHost to the transaction request received in the Redirect step should a transaction require it. *Note: Either PayRequestId, MerchantOrderId or TransId must be populated when doing a Query Request*	Varchar(36)	Yes*
MerchantOrderId This is the reference number generated by your system for the original authorisation e.g. your Customer, Invoice or Order Number. If your **MerchantOrderId** is not a unique number, then PayHost will return the 5 most recent transactions with a matching **MerchantOrderId**.	Varchar(80)	Yes*
TransId The unique reference number assign by PayGate to the original transaction.	Number(11)	Yes*
TransactionType This optional query parameter can be used along with the required query parameter to specify the type of transaction being queried. If not included in the request the default TransactionType is Authorisation. The TransactionType value can be one of the following: - Authorisation - Settlement - Refund - Payout - Purchase (This will provide results for alternative payment methods)	Varchar(20)	No

* Important Note: Only one of the PayRequestID, MerchantOrderID or TransID values is required in the Query request. If none are included the request will return an error.

Query Response (QueryResponse)

Field	Type
Status A full transaction detail response will be returned	StatusType

Examples of a Query Request and Response:

Request

```
<SingleFollowUpRequest>
 <QueryRequest>
   <Account>
     <PayGateId>10011013800</PayGateId>
     <Password>test</Password>
   </Account>
   <PayRequestId>6B739421-C177-903F-B23A-4BC1F09AB791</PayRequestId>
 </QueryRequest>
</SingleFollowUpRequest>
```

Response

```
<SingleFollowUpResponse>
  <QueryResponse>
   <Status>
     <TransactionId>2920562</TransactionId>
     <Reference>INV101</Reference>
     <AcquirerCode>00</AcquirerCode>
     <StatusName>Completed</StatusName>
     <AuthCode>301948</AuthCode>
     <PayRequestId>6B739421-C177-903F-B23A-4BC1F09AB791</PayRequestId>
     <TransactionStatusCode>1</TransactionStatusCode>
     <TransactionStatusDescription>Approved</TransactionStatusDescription>
     <ResultCode>990017</ResultCode>
     <ResultDescription>Auth Done</ResultDescription>
     <Currency>ZAR</Currency>
     <Amount>100</Amount>
     <RiskIndicator>AX</RiskIndicator>
     <PaymentType>
       <Method>CC</Method>
       <Detail>Visa</Detail>
     </PaymentType>
   </Status>
  </QueryResponse>
</SingleFollowUpResponse>
```

Void

The void function allows merchants to void transactions that are not yet settled or refunded. Settlements and Refunds can only be stopped using the Void request if they have not yet been submitted to the acquiring bank.

Transaction Type Details *(TransactionType)*

Settlement
Refund

Void Request (VoidRequest)

Field	Type	Required
Account PayGate account details	PayGateAccountType	Yes
TransactionId The unique reference number assign by PayGate to the original Authorisation transaction.	TransactionId	Yes
TransactionType Transaction type detail of the transaction you want to void e.g. if you want to stop a	TransactionType	Yes

Void Response (VoidResponse)

Field	Type
Status A full transaction detail response will be returned	StatusType

Example of Void Request and Response:

Request

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:pay="http://www.paygate.co.za/PayHOST">
  <soapenv:Header/>
  <soapenv:Body>
    <pay:SingleFollowUpRequest>
      <pay:VoidRequest>
        <pay:Account>
          <pay:PayGateId>10011013800</pay:PayGateId>
          <pay:Password>test</pay:Password>
        </pay:Account>
        <pay:TransactionId>28790224</pay:TransactionId>
        <pay:TransactionType>Settlement</pay:TransactionType>
      </pay:VoidRequest>
    </pay:SingleFollowUpRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

Response

```
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <ns2:SingleFollowUpResponse xmlns:ns2="http://www.paygate.co.za/PayHOST">
      <ns2:VoidResponse>
        <ns2:Status>
          <ns2:TransactionId>28790224</ns2:TransactionId>
          <ns2:StatusName>Completed</ns2:StatusName>
          <ns2:StatusDetail>Settlement Voided</ns2:StatusDetail>
          <ns2:TransactionStatusCode>7</ns2:TransactionStatusCode>
          <ns2:TransactionStatusDescription>Settlement Voided</ns2:TransactionStatusDescription>
          <ns2:Currency>ZAR</ns2:Currency>
          <ns2:Amount>100</ns2:Amount>
          <ns2:DateTime>2014-10-02T16:16:14.577+02:00</ns2:DateTime>
        </ns2:Status>
      </ns2:VoidResponse>
    </ns2:SingleFollowUpResponse>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

Settlement

This function allows the merchant to settle an authorisation where AutoSettle is turned off.

Settlement Request (SettlementRequest)

Field	Type	Required
Account PayGate account details	PayGateAccountType	Yes
TransactionId The unique reference number assign by PayGate to the original Authorisation transaction.	TransactionId	Yes*
MerchantOrderId This is the reference number generated by your system for the original authorisation e.g. your Customer, Invoice or Order Number	Varchar(80)	Yes*

* Important Note: Either the TransactionId or MerchantOrderId value is required in a Settlement request. Both credentials are not required, and including both will result in an error.

Settlement Response (SettlementResponse)

Field	Type
Status A full transaction detail response will be returned	StatusType

Example of Refund Request and Response:

Request

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:pay="http://www.paygate.co.za/PayHOST">
  <soapenv:Header/>
  <soapenv:Body>
    <pay:SingleFollowUpRequest>
     <pay:SettlementRequest>
       <pay:Account>
         <pay:PayGateId>10011013800</pay:PayGateId>
         <pay:Password>test</pay:Password>
       </pay:Account>
       <pay:TransactionId>28790224</pay:TransactionId>
     </pay:SettlementRequest>
    </pay:SingleFollowUpRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

Response

```
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <ns2:SingleFollowUpResponse xmlns:ns2="http://www.paygate.co.za/PayHOST">
      <ns2:SettlementResponse>
        <ns2:Status>
          <ns2:TransactionId>28790227</ns2:TransactionId>
          <ns2:Reference>pgdddtest</ns2:Reference>
          <ns2:StatusName>Completed</ns2:StatusName>
          <ns2:TransactionStatusCode>5</ns2:TransactionStatusCode>
          <ns2:TransactionStatusDescription>Received by Paygate</ns2:TransactionStatusDescription>
          <ns2:ResultCode>990004</ns2:ResultCode>
          <ns2:ResultDescription>Request for Settlement Received</ns2:ResultDescription>
        </ns2:Status>
      </ns2:SettlementResponse>
    </ns2:SingleFollowUpResponse>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

Refund

This function allows the merchant to refund a transaction that has already been settled.

Refund Request (RefundRequest)

Field	Type	Required
Account PayGate account details	PayGateAccountType	Yes
TransactionId The unique reference number assign by PayGate to the original Authorisation transaction.	TransactionId	Yes*
Amount Transaction amount in cents. e.g. R32.95 would be specified as 3295	Number(11)	Yes
MerchantOrderId This is your reference number for use by your internal systems for the original authorisation. e.g. Your Customer, Invoice or Order Number.	Varchar(80)	Yes*
Reference This is your reference number for use by your internal systems. We return the MerchantOrderId you passed to us in the payment request. E.g. Your Customer, Invoice or Order Number.	Varchar(80)	No

* Important Note: A refund can be requested for a settled transaction using either the TransactionID or MerchantOrderID of the original authorisation.

Refund Response (RefundResponse)

Field	Type
Status A full transaction detail response will be returned	StatusType

Example of Refund Request and Response:

Request

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:pay="http://www.paygate.co.za/PayHOST">
  <soapenv:Header/>
  <soapenv:Body>
    <pay:SingleFollowUpRequest>
      <pay:RefundRequest>
        <pay:Account>
          <pay:PayGateId>10011013800</pay:PayGateId>
          <pay:Password>test</pay:Password>
        </pay:Account>
        <pay:TransactionId>28790224</pay:TransactionId>
        <pay:Amount>100</pay:Amount>
      </pay:RefundRequest>
    </pay:SingleFollowUpRequest>
  </soapenv:Body>
</soapenv:Envelope>
```

Response

```
<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/">
  <SOAP-ENV:Header/>
  <SOAP-ENV:Body>
    <ns2:SingleFollowUpResponse xmlns:ns2="http://www.paygate.co.za/PayHOST">
      <ns2:RefundResponse>
        <ns2:Status>
          <ns2:TransactionId>28790228</ns2:TransactionId>
          <ns2:Reference>pgdddtest</ns2:Reference>
          <ns2:StatusName>Completed</ns2:StatusName>
          <ns2:TransactionStatusCode>5</ns2:TransactionStatusCode>
          <ns2:TransactionStatusDescription>Received by Paygate</ns2:TransactionStatusDescription>
          <ns2:ResultCode>990005</ns2:ResultCode>
          <ns2:ResultDescription>Request for Refund Received</ns2:ResultDescription>
        </ns2:Status>
      </ns2:RefundResponse>
    </ns2:SingleFollowUpResponse>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>
```

Testing

There are 2 PayGate IDs that can be used for testing:

The following account details should be used for testing credit card payments with 3D Secure using PayGate's MPI:

PayGate ID: **10011072130**
PayHost Password: **test**

The following account details should be used for testing credit card payments without 3D Secure:

PayGate ID: **10011064270**
PayHost Password: **test**

PayVault tokenisation of credit card numbers as well as processing of requests using tokens is supported for both of the accounts listed above.

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.		
For credit card payment method - 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.

Miscellaneous Information

MasterCard SecureCode & Verified-by-Visa

What is SecureCode and Verified by Visa?
SecureCode 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 SecureCode 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 SecureCode 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) SecureCode and Verified by Visa authentication page. Here the cardholder will be required to key in his/her authentication details (e.g. 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 the Acquiring 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 SecureCode and Verified by Visa transaction i.e. the risk will be passed to the issuing bank.

What about the other cards (AMEX, Diners etc.)?
These cards are not authenticated via the SecureCode 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.

Appendix A : Codes & Descriptions

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	
900017	Requested and Paid Amount Mismatch	Indicates the amount of an M-Pesa payment does not match the original transaction amount, either more or less.
900019	Card vault out of scope	
900207	Declined; authentication failed	Indicates the cardholder did not enter their MasterCard SecureCode / Verified by Visa password correctly.
900208	Not enrolled for authentication	Indicates that the card used to make the payment was not enrolled for 3D Secure authentication. Only applicable when PayProtector ECI Blocking is enabled.
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.

Transaction Status

Transaction Code	Description
0	Not Done
1	Approved
2	Declined
3	Cancelled
4	Cancelled
5	Received by PayGate
7	Settlement Voided

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.

Payment Method Codes

Pay Method	Description
CC	Credit Card
DC	Debit Card
EW	eWallet
BT	Bank Transfer
CV	Cash Voucher
PC	Pre-Paid Card

Locale Codes

Af	Afrikaans	Sq	Albanian
ar-sa	Arabic (Saudi Arabia)	ar-iq	Arabic (Iraq)
ar-eg	Arabic (Egypt)	ar-ly	Arabic (Libya)
ar-dz	Arabic (Algeria)	ar-ma	Arabic (Morocco)
ar-tn	Arabic (Tunisia)	ar-om	Arabic (Oman)
ar-ye	Arabic (Yemen)	ar-sy	Arabic (Syria)
ar-jo	Arabic (Jordan)	ar-lb	Arabic (Lebanon)
ar-kw	Arabic (Kuwait)	ar-ae	Arabic (U.A.E.)
ar-bh	Arabic (Bahrain)	ar-qa	Arabic (Qatar)
Eu	Basque	bg	Bulgarian
Be	Belarusian	ca	Catalan
zh-tw	Chinese (Taiwan)	zh-cn	Chinese (PRC)
zh-hk	Chinese (Hong Kong SAR)	zh-sg	Chinese (Singapore)
Hr	Croatian	cs	Czech
Da	Danish	nl	Dutch (Standard)
nl-be	Dutch (Belgium)	en	English
en-us	English (United States)	en-gb	English (United Kingdom)
en-au	English (Australia)	en-ca	English (Canada)
en-nz	English (New Zealand)	en-ie	English (Ireland)
en-za	English (South Africa)	en-jm	English (Jamaica)
En	English (Caribbean)	en-bz	English (Belize)
en-tt	English (Trinidad)	et	Estonian
fo	Faeroese	fa	Farsi

fi	Finnish	fr	French (Standard)
fr-be	French (Belgium)	fr-ca	French (Canada)
fr-ch	French (Switzerland)	fr-lu	French (Luxembourg)
gd	Gaelic (Scotland)	ga	Irish
de	German (Standard)	de-ch	German (Switzerland)
de-at	German (Austria)	de-lu	German (Luxembourg)
de-li	German (Liechtenstein)	el	Greek
he	Hebrew	hi	Hindi
hu	Hungarian	is	Icelandic
id	Indonesian	it	Italian (Standard)
it-ch	Italian (Switzerland)	ja	Japanese
ko	Korean	ko	Korean (Johab)
lv	Latvian	lt	Lithuanian
mk	Macedonian (FYROM)	ms	Malaysian
mt	Maltese	no	Norwegian (Bokmal)
no	Norwegian (Nynorsk)	pl	Polish
pt-br	Portuguese (Brazil)	pt	Portuguese (Portugal)
rm	Rhaeto-Romanic	ro	Romanian
ro-mo	Romanian (Republic of Moldova)	ru	Russian
ru-mo	Russian (Republic of Moldova)	sz	Sami (Lappish)
sr	Serbian (Cyrillic)	sr	Serbian (Latin)
sk	Slovak	sl	Slovenian
sb	Sorbian	es	Spanish (Spain)
es-mx	Spanish (Mexico)	es-gt	Spanish (Guatemala)
es-cr	Spanish (Costa Rica)	es-pa	Spanish (Panama)
es-do	Spanish (Dominican Republic)	es-ve	Spanish (Venezuela)
es-co	Spanish (Colombia)	es-pe	Spanish (Peru)
es-ar	Spanish (Argentina)	es-ec	Spanish (Ecuador)
es-cl	Spanish (Chile)	es-uy	Spanish (Uruguay)
es-py	Spanish (Paraguay)	es-bo	Spanish (Bolivia)
es-sv	Spanish (El Salvador)	es-hn	Spanish (Honduras)
es-ni	Spanish (Nicaragua)	es-pr	Spanish (Puerto Rico)
sx	Sutu	sv	Swedish
sv-fi	Swedish (Finland)	th	Thai
ts	Tsonga	tn	Tswana
tr	Turkish	uk	Ukrainian
ur	Urdu	ve	Venda
vi	Vietnamese	xh	Xhosa
ji	Yiddish	zu	Zulu

Country and Currency codes

Country	Country Code	Currency	Currency Code
Afghanistan	AFG	Afghani	AFA
Albania	ALB	Lek	ALL
Algeria	DZA	Algerian Dinar	DZD
American Samoa	ASM	U.S. Dollar	USD
Andorra	AND	Euro	EUR
Angola	AGO	Kwanza	AOA

Anguilla	AIA	E. Caribbean Dollar	XCD
Antarctica	ATA	Norwegian Krone	NOK
Antigua and Barbuda	ATG	E. Caribbean Dollar	XCD
Argentina	ARG	Argentine Peso	ARS
Armenia	ARM	Armenian Dram	AMD
Aruba	ABW	Aruban Guilder	AWG
Australia	AUS	Australian Dollar	AUD
Austria	AUT	Euro	EUR
Azerbaijan	AZE	Azerbaijan Manat	AZM
Bahamas	BHS	Bahamian Dollar	BSD
Bahrain	BHR	Bahraini Dinar	BHD
Bangladesh	BGD	Taka	BDT
Barbados	BRB	Barbados Dollar	BBD
Belarus	BLR	Belarussian Ruble	BYR
Belgium	BEL	Euro	EUR
Belize	BLZ	Belize Dollar	BZD
Benin	BEN	CFA Franc BCEAO	XOF
Bermuda	BMU	Bermudian Dollar	BMD
Bhutan	BTN	Indian Rupee	INR
Bolivia	BOL	Boliviano	BOB
Bosnia and Herzegovina	BIH	Bosnian Convertible Mark	BAM
Botswana	BWA	Pula	BWP
Bouvet Is.	BVT	Norwegian Krone	NOK
Brazil	BRA	Brazilian Real	BRL
British Indian Ocean Territory	IOT	U.S. Dollar	USD
British Virgin Is.	VGB	U.S. Dollar	USD
Brunei Darussalam	BRN	Brunei Dollar	BND
Bulgaria	BGR	Bulgarian Lev	BGN
Burkina Faso	BFA	CFA Franc BCEAO	XOF
Burundi	BDI	Burundi Franc	BIF
Cambodia	KHM	Riel	KHR
Cameroon United Republic of	CMR	CFA Franc BEAC	XAF
Canada	CAN	Canadian Dollar	CAD
Cape Verde Is.	CPV	Cape Verde Escudo	CVE
Cayman Is.	CYM	Cayman Is. Dollar	KYD
Central African Republic	CAF	CFA Franc BEAC	XAF
Chad	TCD	CFA Franc BEAC	XAF
Chile	CHL	Chilean Peso	CLP
China	CHN	Yuan Renminbi	CNY
Christmas Is.	CXR	Australian Dollar	AUD
Cocos (Keeling) Is.	CCK	Australian Dollar	AUD
Colombia	COL	Colombian Peso	COP
Comoros	COM	Comoro Franc	KMF
Congo	COG	CFA Franc BEAC	XAF
Cook Is.	COK	New Zealand Dollar	NZD
Costa Rica	CRI	Costa Rican Colon	CRC
Côte d'Ivoire (Ivory Coast)	CIV	CFA Franc BCEAO	XOF
Croatia	HRV	Croatian Kuna	HRK
Cuba	CUB	Cuban Peso	CUP
Cyprus	CYP	Cyprus Pound	CYP
Czech Republic	CZE	Czech Koruna	CZK

Democratic Republic of the Congo (formerly Zaire)	COD	Franc Congolais (formerly New Zaire)	CDF
Denmark	DNK	Danish Krone	DKK
Djibouti	DJI	Djibouti Franc	DJF
Dominica	DMA	E. Caribbean Dollar	XCD
Dominican Rep.	DOM	Dominican Peso	DOP
East Timor	TMP	Timor Escudo	TPE
Ecuador	ECU	Sucre	ECS
Egypt	EGY	Egyptian Pound	EGP
El Salvador	SLV	U.S. Dollar	USD
Equatorial Guinea	GNQ	CFA Franc BEAC	XAF
Eritrea	ERI	Eritean Nakfa	ERN
Estonia	EST	Kroon	EEK
Ethiopia	ETH	Ethiopian Birr	ETB
European Monetary Cooperation Fund	--	European Currency Unit	XEU
European Union	--	Euro	EUR
Faeroe Is.	FRO	Danish Krone	DKK
Falkland Is. (Malvinas)	FLK	Falkland Is. Pound	FKP
Fiji	FJI	Fiji Dollar	FJD
Finland	FIN	Euro	EUR
France	FRA	Euro	EUR
France Metropolitan	FXX	Euro	EUR
French Guiana	GUF	Euro	EUR
French Polynesia	PYF	CFP Franc	XPF
French Southern Territory	ATF	Euro	EUR
Gabon	GAB	CFA Franc BEAC	XAF
Gambia	GMB	Dalasi	GMD
Georgia	GEO	Georgian Lari	GEL
Germany	DEU	Deutsche Mark	DEM
Ghana	GHA	Cedi	GHC
Gibraltar	GIB	Gibraltar Pound	GIP
Greece	GRC	Euro	EUR
Greenland	GRL	Danish Krone	DKK
Grenada	GRD	E. Caribbean Dollar	XCD
Guadeloupe	GLP	Euro	EUR
Guam	GUM	U.S. Dollar	USD
Guatemala	GTM	Quetzal	GTQ
Guinea	GIN	Guinea Franc	GNF
Guinea—Bissau	GNB	Guinea-Bissau Peso	GWP
Guyana	GUY	Guyana Dollar	GYD
Haiti	HTI	Gourde	HTG
Heard and McDonald Is.	HMD	Australian Dollar	AUD
Holy See (Vatican City State)	VAT	Euro	EUR
Honduras	HND	Lempira	HNL
Hong Kong China	HKG	Hong Kong Dollar	HKD
Hungary	HUN	Forint	HUF
Iceland	ISL	Iceland Krona	ISK
India	IND	Indian Rupee	INR
Indonesia	IDN	Rupiah	IDR
Iran Airlines	--	Iranian Airline Rate	IRA
Iran Islamic Republic of	IRN	Iranian Rial	IRR
Iraq	IRQ	Iraqi Dinar	IQD

Ireland Republic of	IRL	Euro	EUR
Israel	ISR	New Israeli Shekel	ILS
Italy	ITA	Euro	EUR
Jamaica	JAM	Jamaican Dollar	JMD
Japan	JPN	Yen	JPY
Jordan	JOR	Jordanian Dinar	JOD
Kazakhstan	KAZ	Tenge	KZT
Kenya	KEN	Kenyan Shilling	KES
Kiribati	KIR	Australian Dollar	AUD
Korea Democratic People's Republic of (North Korea)	PRK	North Korean Won	KPW
Korea Republic of	KOR	Won	KRW
Kuwait	KWT	Kuwaiti Dinar	KWD
Kyrgyzstan	KGZ	Som	KGS
Lao People's Democratic Republic	LAO	Kip	LAK
Latvia	LVA	Latvian Lats	LVL
Lebanon	LBN	Lebanese Pound	LBP
Lesotho	LSO	Rand	ZAR
Liberia	LBR	Liberian Dollar	LRD
Libyan Arab Jamahiriya	LBY	Libyan Dinar	LYD
Liechtenstein	LIE	Swiss Franc	CHF
Lithuania	LTU	Lithuanian Litas	LTL
Luxembourg	LUX	Euro	EUR
Macau China	MAC	Pataca	MOP
Macedonia the Former Yugoslav Republic of	MKD	Denar	MKD
Madagascar	MDG	Malagasy Franc	MGF
Malawi	MWI	Malawi Kwacha	MWK
Malaysia	MYS	Malaysian Ringgit	MYR
Maldives	MDV	Rufiyaa	MVR
Mali	MLI	CFA Franc BCEAO	XOF
Malta	MLT	Maltese Lira	MTL
Marshall Islands	MHL	U.S. Dollar	USD
Martinique	MTQ	Euro	EUR
Mauritania	MRT	Ouguiya	MRO
Mauritius	MUS	Mauritius Rupee	MUR
Mayotte	MYT	Euro	EUR
Mexico	MEX	Mexican Peso	MXN
Micronesia	FSM	U.S. Dollar	USD
Moldova Republic of	MDA	Moldovan Leu	MDL
Monaco	MCO	Euro	EUR
Mongolia	MNG	Tugrik	MNT
Montenegro		Yugoslavian New Dinar	YUM
Montserrat	MSR	E. Caribbean Dollar	XCD
Morocco	MAR	Moroccan Dirham	MAD
Mozambique	MOZ	Metical	MZM
Myanmar	MMR	Kyat	MMK
Namibia	NAM	Namibia Dollar	NAD
Nauru	NRU	Australian Dollar	AUD
Nepal	NPL	Nepalese Rupee	NPR
Netherlands	NLD	Euro	EUR
Netherlands Antilles	ANT	Nether. Antillian Guilder	ANG
New Caledonia	NCL	CFP Franc	XPF

New Zealand	NZL	New Zealand Dollar	NZD
Nicaragua	NIC	Cordoba Oro	NIO
Niger	NER	CFA Franc BCEAO	XOF
Nigeria	NGA	Naira	NGN
Niue	NIU	New Zealand Dollar	NZD
Norfolk Is.	NFK	Australian Dollar	AUD
Northern Mariana Islands	MNP	U.S. Dollar	USD
Norway	NOR	Norwegian Krone	NOK
Oman	OMN	Rial Omani	OMR
Pakistan	PAK	Pakistan Rupee	PKR
Palau	PLW	U.S. Dollar	USD
Panama	PAN	Balboa	PAB
Papua New Guinea	PNG	Kina	PGK
Paraguay	PRY	Guarani	PYG
Peru	PER	Nuevo Sol	PEN
Philippines	PHL	Philippine Peso	PHP
Pitcairn	PCN	New Zealand Dollar	NZD
Poland	POL	Polish New Zloty	PLN
Portugal	PRT	Euro	EUR
Puerto Rico	PRI	U.S. Dollar	USD
Qatar	QAT	Qatari Rial	QAR
Reunion	REU	Euro	EUR
Romania	ROM	Leu	ROL
Russian Federation	RUS	Russian Ruble (International)	RUB
Russian Ruble (Domestic)	RUS	Russian Ruble (Domestic)	RUR
Rwanda	RWA	Rwanda Franc	RWF
Samoa	WSM	Tala	WST
San Marino	SMR	Euro	EUR
Sao Tome and Principe	STP	Dobra	STD
Saudi Arabia	SAU	Saudi Riyal	SAR
Senegal	SEN	CFA Franc BCEAO	XOF
Seychelles	SYC	Seychelles Rupee	SCR
Sierra Leone	SLE	Leone	SLL
Singapore	SGP	Singapore Dollar	SGD
Slovakia	SVK	Slovak Koruna	SKK
Slovenia	SVN	Tolar	SIT
So. Georgia and So. Sandwich Is.	SGS	Pound Sterling	GBP
Solomon Is.	SLB	Solomon Is. Dollar	SBD
Somalia	SOM	Somali Shilling	SOS
South Africa	ZAF	Rand	ZAR
Spain	ESP	Euro	EUR
Sri Lanka	LKA	Sri Lanka Rupee	LKR
St. Helena	SHN	St. Helena Pound	SHP
St. Kitts-Nevis	KNA	E. Caribbean Dollar	XCD
St. Lucia	LCA	E. Caribbean Dollar	XCD
St. Pierre and Miquelon	SPM	Euro	EUR
St. Vincent and The Grenadines	VCT	E. Caribbean Dollar	XCD
Sudan	SDN	Sudanese Pound	SDD
Sudan Airlines	--	Sudan Airline Rate	SDA
Suriname	SUR	Surinam Guilder	SRG
Svalbard and Jan Mayen Is.	SJM	Norwegian Krone	NOK

Swaziland	SWZ	Lilangeni	SZL
Sweden	SWE	Swedish Krona	SEK
Switzerland	CHE	Swiss Franc	CHF
Syrian Arab Rep.	SYR	Syrian Pound	SYP
Taiwan	TWN	New Taiwan Dollar	TWD
Tajikistan	TJK	Somoni	TJS
Tanzania United Republic of	TZA	Tanzanian Shilling	TZS
Thailand	THA	Thailand Baht	THB
Togo	TGO	CFA Franc BCEAO	XOF
Tokelau	TKL	New Zealand Dollar	NZD
Tonga	TON	Pa'anga	TOP
Trinidad and Tobago	TTO	Trinidad and Tobago Dollar	TTD
Tunisia	TUN	Tunisian Dinar	TND
Turkey	TUR	Turkish Lira	TRL
Turkmenistan	TKM	Manat	TMM
Turks and Caicos Is.	TCA	U.S. Dollar	USD
Tuvalu	TUV	Australian Dollar	AUD
U.S. Minor Outlying Islands	UMI	U.S. Dollar	USD
U.S. Virgin Is.	VIR	U.S. Dollar	USD
Uganda	UGA	Uganda Shilling	UGX
Ukraine	UKR	Ukrainian Hryvnia	UAH
United Arab Emirates	ARE	U.A.E. Dirham	AED
United Kingdom	GBR	Pound Sterling	GBP
United States	USA	U.S. Dollar	USD
Uruguay	URY	Peso Uruguayo	UYU
Uzbekistan	UZB	Uzbekistan Sum	UZS
Vanuatu	VUT	Vatu	VUV
Venezuela	VEN	Bolivar	VEB
Vietnam	VNM	Dong	VND
Wallis and Futuna Is.	WLF	CFP Franc	XPF
Western Sahara	ESH	Moroccan Dirham	MAD
Yemen	YEM	Yemeni Rial	YER
Yugoslavia	YUG	Yugoslavian New Dinar	YUM
Zambia	ZMB	Zambian Kwacha	ZMK
Zimbabwe	ZWE	Zimbabwe Dollar	ZWD