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Payment Acceptance

A division of EVO

BOIPA Gateway

TRANSACTION RESULT CALL v 5.5, April 20, 2022

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Document Purpose

The purpose of this document is to describe the TRANSACTION RESULT CALL API Operation with the Signature XML added which adds extra security to it. This will enable merchant developers to integrate their webpages with the BOIPA Gateway. Refer to the *BOIPA Gateway – 0 – Overview document* for how this API Operation is used in the merchant processes.

A Transaction Result Call is a secure, server-to-server transmission between the BOIPA Gateway and the merchant's server. When an API operation is completed (successfully or not), a Transaction Result Call is sent to inform the merchant about the result and the status of the transaction.

The optional `signature` parameter is available for merchants to verify the authenticity of the transaction result message. This is set up during or after Merchant Onboarding. For further details please contact your eCommerce Support Team.

The Transaction Result Call is sent to the URL that is provided in `merchantNotificationUrl` in the Session Token Request of the Authorise or Purchase API Operation (see *BOIPA Gateway – 2 – AUTH-PURCHASE-VERIFY – Direct API* or *BOIPA Gateway – 2 – AUTH-PURCHASE-VERIFY – Hosted Payment Page* document, as appropriate to the integration method). Transaction Result Calls in response to subsequent Void, Capture or Refund API Operations will use this same `merchantNotificationUrl` value that is saved against the original transaction in the BOIPA Gateway.

If the `merchantNotificationUrl` is not provided in the original transaction, no Transaction Result Call is sent.

Change Log

Version	Date	Author	Description of Change
5.1	14/02/22	Vaughan Morgan-Jones	Signature parameter added (IRELOT-208) • Section 1: signature added • Section 2: Added
5.2	24/03/22	Gary Rusby	Addition of examples for Success, Fail and Verify
5.3	25/03/22	Vaughan Morgan-Jones	IRELOT- 236 - Status table added
5.4	08/04/22	Vaughan Morgan-Jones	IRELOT-327 – Statuses updated
5.5	20/04/22	Vaughan Morgan-Jones	IRELOT- 236 – Examples updated and Transaction Statuses corrected

1   Transaction Result Call

The Transaction Result Call is sent as a POST server to server call in addition to the Action Response, which is sent to the merchant's client webpage that the customer sees.

The Transaction Result Call is sent to the *merchantNotificationUrl* provided in the Session Token or Action Request.

Transaction Result Calls provide additional information to the Action Response that can be used by the merchant for further reconciliation and information about the transaction.

Parameter	Data Type	Description
merchantId	Integer (18)	The *merchantId* value received in the Session Token Request of the API Operation
action	String (enum)	The *action* received in the Session Token Request of the API Operation
signature	String (128)	A Signed String for use by merchants to validate the sending of this POST Request has come from the BOIPA Gateway See Section 2 - Call Signature for how to use this parameter
merchantTxId	String (50)	The merchant's reference for the transaction provided in the *merchantTxId* parameter in the API Operation If the *merchantTxId* parameter was empty or omitted, a value will have been generated by the BOIPA Gateway as a hexadecimal string
merchantFreeText	String (200)	The free text field contents sent in the in the Session Token Request of the Auth/Purchase/Verify API Operation for the merchant's comments about the transaction
txId	Integer (18)	The unique identifier for the transaction in the BOIPA Gateway **Note**: Only returned for a REFUND action
acquirerTxId	String (50)	The transaction identifier in acquirer system, if acquirer returns it
originalTxId	Integer (18)	The BOIPA Gateway identifier of the original transaction
amount	BigDecimal (15.3)	The total transaction amount, including tax, shipping, surcharge and discount amounts
currency	String (enum)	The ISO alpha-3 code for the currency of the transaction, as defined in the ISO 4217 standard
customerId	String (20)	The merchant's reference for the customer of the transaction provided in the *customerId* parameter in the API Operation If the *customerId* parameter was empty or omitted in the Session Token or Action Request, a value will have been generated by the BOIPA Gateway
pan	String (100)	Customer payment account number (for non-card payments) or BOIPA Gateway payment card token number used in the transaction
brandId	Integer (18)	The Brand Id used in the transaction, which was supplied by the BOIPA Gateway when the merchant account was set up in the BOIPA Gateway
paymentSolutionId	Integer (18)	The BOIPA Gateway Payment Solution Identifier used in the transaction. The payment solutions that are available to the merchant can be found using the API Operation detailed in the *IPG Gateway - 8 - GET AVAILABLE PAYMENT SOLUTIONS* document.
status	String (enum)	The transaction status in the BOIPA Gateway after the API Operation is completed – See Appendix A - Transaction Statuses
acquirer	String (100)	For payment cards the acquirer name For non-card payments the payment solution name
acquirerAmount	BigDecimal (15.3)	Amount processed by payment acquirer May be different to *amount* in the original transaction, especially if the acquirer processed the transaction in a different currency

Parameter	Data Type	Description
acquirerCurrency	String (enum)	The ISO alpha-3 currency code, as defined in the ISO 4217 standard, of the currency processed by the payment acquirer, which maybe different to the currency in the original transaction, e.g. if a currency conversion was applied
country	String (enum)	The ISO alpha-2 code country in which the transaction took place, as defined in the ISO 3166 standard
freeText	String (200)	Merchant's free text that was supplied in the *freeText* field in the original Session Token or Action Request

paymentSolutionDetails	JSON block	For payment cards only: the Transaction Authorisation Code received from the acquirer, format:
		
		{
		"authCode":"",
		"expiryDate":"",
		"cardType":"",
		"maskedPan":"",
		"nameOnCard":"" ,
		"avsPostCode":"",
		"addrResultCode":""
		}
		
		Note: the *maskedPan* value format is "999999******9999"

signedXml	JSON block	This is an optional field: The Signature key is an XML Digital Signature from apache-xmlsec. If used, it is needed on both Merchant and IPG side, IPG will save it into a table, while merchants will have a copy on their side. For further details please contact your eCommerce Support Team. XML Digital Signature
rpId	Integer (18)	The identifier for the BOIPA Gateway Managed Recurring Payment Plan that was requested in the Auth/Purchase/Verify Session Token Request in the 'rp' prefixed parameters If no Plan was requested this field will be empty If there was an error setting up the Plan the errors will be detailed in the *errors* field
errors	String (400)	Only applies to ERROR transactions It is a brief description of the cause of the error Format: "errors": [{ "messageCode": "This field is required in [REQUEST]", "fieldName": "password"}],
resultId	String (36)	Hexadecimal string that is to be used in any support request calls
processingTime	Integer (6)	The time in seconds for the process to complete
additionalDetails	Array	Optional data associated with the transactions. Currently: ageCheck description
customParameter1Or … customParameter20Or	String (50)	The original 20x (50 character) free text fields provided by the merchant in the Session Token Request of the Auth/Purchase/Verify API Operation
customParameter1 … customParameter20	String (50)	The 20x (50 character) free text fields provided by the merchant in the Session Token Request of the Auth/Purchase/Verify API Operation with the non-Basic Latin characters replaced by a space character. These values will have been sent for payment processing.

1.1 Examples

1.1.1 SUCCESS PURCHASE

result: {country=IE, amount=10.00, signature=f33bfa1b6628ce69df905aaadc9b93685e628510a884fbf4, acquirerTxId=A6F91FB72966462CBBF3849A13951A74,txId=12216160,language=en,paymentSolutionDetails={\"expiryDate\":\"12/2023\",\"authCode\":\"006085\",\"maskedPan\":\"222286******8755\",\"nameOnCard\":\"mastercardd testtt\",\"cardType\":\"MASTERCARD DEBIT\"}, acquirer=EVO 0802 PLI Reporting Test QA2 Deposit MID, acquirerAmount=10.00, merchantId=188786, brandId=1887860000, merchantTxId=8138106, customerId=20515, acquirerCurrency=EUR, action=PURCHASE, paymentSolutionId=500, currency=EUR, pan=6369091856958755, status=CAPTURED, originalTxId=null}

1.1.2 FAILED PURCHASE

result: {country=IE, amount=10.00, signature=ab8c6cf7ae4f1cb6b13b6df7572129507ae83956d82ea9f3, errorMessage=Error response from Payment Provider: 3DSecure authentication failed: Status R / Reason 01, txId=12216146,language=en,paymentSolutionDetails={\"expiryDate\":\"12/2023\",\"maskedPan\":\"519627******9183\",\"nameOnCard\":\"mastercard testing\",\"cardType\":\"MASTERCARD DEBIT\"}, acquirer=EVO 0802 PLI Reporting Test QA2 Deposit MID, acquirerAmount=10.00, merchantId=188786, brandId=1887860000, merchantTxId=8138083, customerId=20512, acquirerCurrency=EUR, action=PURCHASE, paymentSolutionId=500, currency=EUR, pan=7018601623319183, status=DECLINED, originalTxId=null}

1.1.3 VERIFY SUCCESS

result: {country=IE, amount=.00, signature=7320959f5ba093b7f69fe747417f6190f7391f3193e6e895, acquirerTxId=E274CB4198B******57BDBB9958A,txId=12216173,language=en,paymentSolutionDetails={\"expiryDate\":\"12/2022\",\"maskedPan\":\"519627******9183\",\"nameOnCard\":\"kelly jones\",\"cardType\":\"MASTERCARD DEBIT\"}, acquirer=EVO 0802 PLI Reporting Test QA2 Deposit MID, acquirerAmount=.00, merchantId=188786, brandId=1887860000, merchantTxId=11564950, customerId=44987, acquirerCurrency=EUR, action=VERIFY, paymentSolutionId=500, currency=EUR, pan=7018601623319183, status=VERIFIED, originalTxId=null}

1.1.4 VERIFY FAILED

result: {country=IE, amount=.00, signature=4318fef7aa8dfcfd6b19f511a437a36599cebf1ac1d38355, acquirerTxId=71E1D5229E394CF4A557831949194DE4, errorMessage=Error response from Payment Provider: 59 - Suspected fraud,txId=12216672,language=en, paymentSolutionDetails={\"expiryDate\":\"12/2022\",\"maskedPan\":\"476173******0135\",\"nameOnCard\":\"yang ding\",\"cardType\":\"VISA DEBIT\"}, acquirer=EVO Lottery - Deposits, acquirerAmount=.00, merchantId=188164, brandId=1881640000, merchantTxId=qvOFecbStDLBKvRChzg3, customerId=dingyangtest0414, acquirerCurrency=EUR, action=VERIFY, paymentSolutionId=500, currency=EUR, pan=6943157184990135, status=DECLINED, originalTxId=null}

2   Call Signature

The new `signature` parameter has been provided for merchants who wish to securely validate that the Transaction Result Call has been sent by the BOIPA Gateway.

Note: merchants must be configured in the BOIPA Gateway for this is new parameter to be sent.

1. The Transaction Result Call is sent with the signature parameter that is built from all the parameter values in the request except the signature

2. The merchant's steps should be:

   a. Order map the request parameters except for the `signature`, for example:

```
[acquirer, acquirerAmount, acquirerCurrency, acquirerTxId, action, amount, brandId,
country, currency, customerId, language, merchantId, merchantTxId, originalTxId,
pan, paymentSolutionDetails, paymentSolutionId, status, txId]
```

   Note: the list above only shows those parameters that have been received with values. If other parameters are received, they must be added to the list.

   b. Concatenate the corresponding values received in the same order as the above order map, e.g.:

```
AcquirerName288.31EURE202015001AB4FE488E3900ACF460432PURCHASE288.311944600000ESEURTEST1234e
n194460demonad20777a95null7066190474920135{authCode=087655}500CAPTURED12129559
```

   c. Verify the concatenated value with `signature` value and secret key which was previously provided by the BOIPA Gateway

      i. The BOIPA Gateway is using Spring Security Core library (version 5.3.3.RELEASE) for signing and verifying digital signature

      ii. Shown below is the code used to sign / validate concatenated input in the BOIPA Gateway, which can be used to validate the `signature` value:

```java
/** length of the hash string */
public final static int PBKDF2_HASH_WIDTH = 128;

/** number of iterations used to encode the message */
public final static int PBKDF2_ITERATIONS = 10000;

// create the same encoder with the merchant's secret
Pbkdf2PasswordEncoder encoder = new Pbkdf2PasswordEncoder(new
String(sharedSecretKey), Constants.PBKDF2_ITERATIONS, Constants.PBKDF2_HASH_WIDTH);

// sign concatenated the signature
String signature = encoder.encode(signatureInput);

// validate signature
encoder.matches(signatureInput, signature);
```

- **sharedSecretKey**:   secret key provided by the BOIPA Gateway

- **signatureInput**:   the concatenated string from Step 2.b

- **signature**:   signed concatenate string which is sent in POST parameters to merchants

Appendix A   Transaction Statuses

A.1 Purchase Requests

Status	Condition
CAPTURED	The transaction was successfully authenticated and authorised waiting settlement This is a final status in the BOIPA Gateway
DECLINED	The transaction was declined, i.e. not successful This is a final status in the BOIPA Gateway
ERROR	The transaction processing failed with an error, provided in the response This is a final status in the BOIPA Gateway
INCOMPLETE	An unknown problem occurred during the process, usually the transaction was abandoned by the customer. A record for the transaction has been created in the BOIPA Gateway database, but the final state of the transaction is unknown. If an update is not received from the payment processes after 40 days, the transaction status is set to ERROR
WAITING_DEC_AUTH	If a Decoupled Authentication is required in the 3DS V2.x process. The payment process is suspended waiting for the cardholder/customer to complete the decoupled authentication with their Issuer. Once complete: • If the authentication was successful, Payment Authorisation will be processed and the Status will be changed to CAPTURED or DECLINED • If authentication failed or was not completed in the time allotted, the status will be changed to INCOMPLETE

A.2 Authorisation Requests

Status	Condition
CAPTURED	The transaction was successfully authenticated and authorised waiting settlement This is a final status in the BOIPA Gateway
DECLINED	The transaction was declined, i.e. not successful This is a final status in the BOIPA Gateway
VOID	The transaction that was previously at a status of NOT_SET_FOR_CAPTURE was voided / cancelled by the merchant This is a final status in the BOIPA Gateway
ERROR	The transaction processing failed with an error, provided in the response This is a final status in the BOIPA Gateway
NOT_SET_FOR_CAPTURE	An interim status when the transaction was successfully authenticated and authorised The merchant is configured to manually approve transactions to be sent for Capture
SET_FOR_CAPTURE	An interim status when the transaction was successfully authenticated and authorised The merchant is configured for transactions to be automatically sent for Capture.
INCOMPLETE	An unknown problem occurred during the process, usually the transaction was abandoned by the customer. A record for the transaction has been created in the BOIPA Gateway database, but the final state of the transaction is unknown. If an update is not received from the payment processes after 40 days, the transaction status is set to ERROR
WAITING_DEC_AUTH	If a Decoupled Authentication is required in the 3DS V2.x process. The payment process is suspended waiting for the cardholder/customer to complete the decoupled authentication with their Issuer. Once complete: • If the authentication was successful, Payment Authorisation will be processed and the status will be changed to NOT_SET_FOR_CAPTURE, SET_FOR_CAPTURE, CAPTURED or DECLINED • If authentication failed or was not completed in the time allotted, the Status will be changed to INCOMPLETE

A.3 Verify Requests

Status	Condition
VERIFIED	The transaction was successfully authenticated and authorised <mark>This is a final status in the BOIPA Gateway</mark>
DECLINED	The transaction was declined, i.e. not successful <mark>This is a final status in the BOIPA Gateway</mark>
ERROR	The transaction processing failed with an error, provided in the response <mark>This is a final status in the BOIPA Gateway</mark>
INCOMPLETE	An unknown problem occurred during the process, usually the transaction was abandoned by the customer. A record for the transaction has been created in the BOIPA Gateway database, but the final state of the transaction is unknown. If an update is not received from the payment processes after 40 days, the transaction status is set to ERROR
WAITING_DEC_AUTH	If a Decoupled Authentication is required in the 3DS V2.x process. The payment process is suspended waiting for the cardholder/customer to complete the decoupled authentication with their Issuer. Once complete: - If the authentication was successful, Payment Authorisation will be processed and the Status will be changed to VERIFIED or DECLINED - If authentication failed or was not completed in the time allotted, the status will be changed to INCOMPLETE