

FSC payments API gateway

Abstract

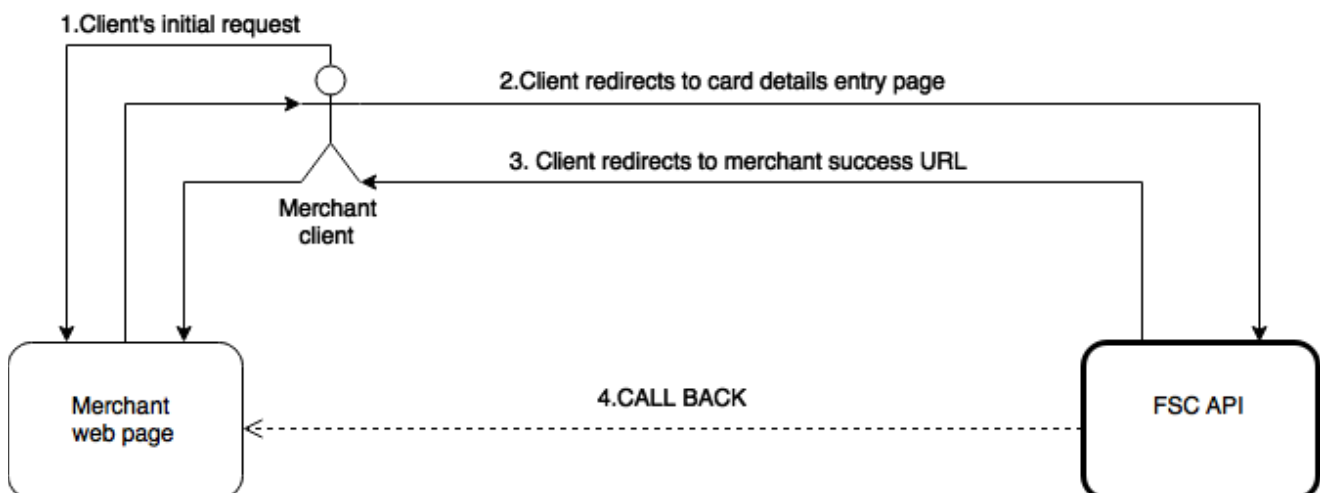
FSC Payment Gateway allows merchants to accept electronic money payments from MasterCard and Visa credit/debit cards in a secure and convenient manner. This document explains integration of merchant's system with FSC Payment Gateway.

Processing Cycle

Briefly processing cycle can be described in the following steps:

1. Merchant's system prepares required data about payment and redirects client to FSC Payment Gateway supplying encrypted HTTP POST data with details about the payment.
2. Client fills required data in FSC Payment Gateway (and related) forms.
If client has filled the forms FSC Payment Gateway does required processing of electronic money.
3. Upon success or error FSC Payment Gateway redirects client to *successURL* supplying encrypted HTTP POST data with details about result of the payment.
4. Upon success FSC Payment Gateway notifies merchant's system using direct HTTP request supplying encrypted HTTP POST data with details about result of the payment. As there is no guarantee that client will return to merchant's site after making the payment, this ensures that merchant's system will be notified about the payment.

Visual schema of processing cycle and interface (dashed line denotes part of interface which doesn't involve client's browser).



Data exchanged between merchant and FSC

To set up connection between merchant's system and FSC Payment Gateway parties must agree on the following parameters.

Parameters	Description	Example value
merchantId	A constant ID that FSC assigns to merchant.	TST0001
FSC Payment Gateway public	Public key from 2048-bit RSA key pair generated by and belonging to FSC.	N/A
Merchant's public key	Public key from 2048-bit RSA key pair generated by and belonging to merchant.	N/A
Merchant server base URL	Base URL of merchant's site. Values of <i>successUrl</i> (of <i>request XML data</i> mentioned later in this document) must always point to within this site.	https://shop.example.com/
Merchant server callback URL	URL of merchant's system that receives direct HTTP POST request from FSC Payment Gateway after each payment attempt (except technically erroneous requests).	https://shop.example.com/fsc-callback.aspx

Interface data formats

Request fields

Encrypted HTTP POST data that merchant sends to FSC Payment Gateway via client's browser has the following fields:

Field name	Description
KEY	Base64 encoded RSA encrypted RC4 request key. Unique, random and single use RC4 key (further referred to as <i>request key</i>) that is encrypted by FSC Payment Gateway RSA public key and then base64 encoded.
REQUEST_DATA	Base64 encoded RC4 encrypted XML data. <i>Request XML data</i> that is encrypted by <i>request key</i> and then base64 encoded.
SIGNATURE	Base64 encoded RSA with SHA-1 digital signature of <i>request XML data</i> . RSA digital signature of SHA-1 hash of <i>request XML data</i> that is made with merchant's RSA private key and afterwards is base64 encoded.

Request XML data format

All data elements of *request XML data* should be included in XML root element <requestData>. An example *request XML data* looks like this:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"><requestData>
  <amount>5.2</amount>
  <currency>EUR</currency>
  <customerEmail>info@firstswisscard.com</customerEmail>
  <merchantId>1234</merchantId>
  <orderDescription>Example order</orderDescription>
  <orderId>3467</orderId>
  <successUrl>https://shop.example.com/thankyou.aspx</successUrl>
  <transactionId>15</transactionId>
</requestData>
```

Data elements have the following meanings:

Element name	Type	Description
transactionId	string	Unique, single-use transaction ID generated
amount	decimal	Transaction amount in major currency units (e.g. dollars).
currency	string	3 character ISO 4217 currency code for transaction currency. Transaction currency must be one of allowed currencies for specific merchant.
successUrl	string	URL where client will be redirected upon completion of payment (whether successful or not). Note: Clients after unsuccessful payment attempts (e.g. when card has insufficient funds or invalid card data is entered) will also be redirected to this URL.
orderId	decimal	ID of merchant order.
orderDescription	string	Short description of order.
merchantId	string	ID of merchant in FSC Payment Gateway. This is constant from merchant's point of
customerEmail	string	Customer's e-mail.

Response fields

Encrypted HTTP POST data that FSC Payment Gateway sends to merchant has the following fields:

Field name	Description
KEY	Base64 encoded RSA encrypted RC4 request key. Unique, random and single use RC4 key (further referred to as <i>response key</i>) that is encrypted by merchant's RSA public key and then base64 encoded.
RESPONSE_DATA	Base64 encoded RC4 encrypted XML data. <i>Response XML data</i> that is encrypted by <i>response key</i> and then base64 encoded.
SIGNATURE	Base64 encoded RSA with SHA-1 digital signature of <i>response XML data</i> . RSA digital signature of SHA-1 hash of <i>response XML data</i> that is made with FSC Payment Gateway RSA private key and afterwards is base64 encoded.

Such POST request is sent to *successUrl* (from *request XML data*) via client's browser. The same POST request is also sent directly from FSC Payment gateway to merchant's callback URL. It is done to ensure that merchant's system is notified about the payment regardless of whether client returns to merchant's site or not.

Response XML data format

All data elements of *response XML data* will be included in XML root element <responseData>. An example *response XML data* looks like this:

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<responseData>
  <status>SUCCESS</status>
  <statusDescription>Transaction success</statusDescription>
  <transactionId>15</transactionId>
</responseData>
```

Data elements have the following meanings:

Element name	Type	Description
transactionId	string	Transaction ID that was originally received from merchant.
status	string	“SUCCESS” for successful transactions. Various strings starting with “FAILURE” for failed transactions.
statusDescription	string	A textual description of <i>status</i> .

Most common failure statuses:

Status	Reason
FAILURE_DUPLICATE_TRANSACTION_ID	Transaction with specific <i>transactionId</i> has previously been processed. This may be result of using back button of internet browser.
FAILURE_CURRENCY_NOT_ALLOWED	<i>currency</i> from merchant's supplied <i>request XML data</i> is not available for specific merchant.

Technical error response fields

When payment errors (such as invalid card data, expired card, insufficient funds etc.) occur client is redirected to *successUrl* (with FAILURE status in response XML data)

HTTP POST data that FSC Payment Gateway sends to merchant's system via client's browser in case of technical error has the following fields:

Field name	Description
ERROR_CODE	This field always has value of "SERVICE_ERROR".
ERROR_MESSAGE	This field contains textual description of the error.

Callback state diagram

