

How to integrate - API reference

This chapter provides the instruction of the integration with the solution and with it's methods. By using below API you will be able to order quick money transfers to debit or credit cards in 150 major currencies. Lower the costs, save time and increase the end-user satisfaction. Functionality consists of five methods allowing to order payout, check commission and follow transfer status. All methods are secured with `Basic-Authorization` of your merchant account. The `Basic-Authorization` will be provided to you during the onboarding process. Prior using this solution is to open account in acquiring institution. To complete this steps, please contact our Sales Department. We will guide you through entire process.

Environment Test API base URL

`http://payouts.verestro.dev/`

Environment Production API base URL

NOT YET IMPLEMENTED

Sequence diagram presenting payout process

```
@startuml
skinparam ParticipantPadding 30
skinparam BoxPadding 30
skinparam noteFontColor #FFFFFF
skinparam noteBackgroundColor #1C1E3F
skinparam noteBorderColor #1C1E3F
skinparam noteBorderThickness 1
skinparam sequence {
ArrowColor #1C1E3F
ArrowFontColor #1C1E3F
ActorBorderColor #1C1E3F
ActorBackgroundColor #FFFFFF
ActorFontStyle bold
ParticipantBorderColor #1C1E3F
ParticipantBackgroundColor #1C1E3F
```

```

ParticipantFontColor #FFFFFF
ParticipantFontStyle bold
LifeLineBackgroundColor #1C1E3F
LifeLineBorderColor #1C1E3F
}
actor "Payer" as p
participant "Customer" as c
participant "Verestro" as v
p->c: Make payout (provide transaction data)
note right of p: Sender chooses his balance \nand provides receiver's card
c->v: Calculate commission POST /client/calculate-commission/payout
c<-v: Return commission
p<-c: Show commission
p->c: Confirm
c->v: Order payout with transaction data POST /api/v2/client/send-money
note left of v: We contact with acquiring institution \nfor transaction to be processed
v->c: Return transaction order-Id with status
p<-c: Payout ordered
v-->c: (optional) Send webhook
c->v: (optional) Check transaction status GET /client/send-money/{order-Id}
v->c: Return http status and proper message
@enduml

```

Important: The success of the multicurrency send-money transaction depends primarily on the correctness of your currency configuration which is done by the Acquirer. To make transactions in a currency other than the currency of the card, contact the Verestro employee.

Important: From January 2021, there is an internal functionality to restrict access for the Customer to specific method. The Acquirer employee can disable access to a given endpoint, then the HTTP status 403 FORBIDDEN will be returned. You will be informed about each access restriction action.

Note: When performing authorization, remember that there are currencies with different number of decimal places. For example: VND has no pennies and KWD has three decimal places. Please take this into account in the Amount field. For more information on other currencies, see ISO 4217.

Order payout

The method allows you to order a payout transfer. The request can be made in four forms depending on the type of reference indicating the receiver of the funds. Customer by selecting `amount` = `X` defines amount of payment in given currency. This amount is transferred to receiver payment instrument (receiver reference) in selected currency. In case there's need revaluation from one currency to another, system uses `higherRate` for this situation. For more details about specific rates please refer to `currencyRate` method.

Receiver reference	Description
<code>CASH-PLAIN</code>	Sender provides receiver's card number in plain text.
<code>CASH-PLAIN-WITH-CALCULATE-COMMISSION-RESULT</code>	Sender provides receiver's card number in plain text along with earlier calculated commission with <code>calculateCommissionPayout</code> .

POST /api/v2/client/send-money

CASH-PLAIN

Headers	
Key	Value
<code>Content-Type</code>	<code>application/vnd.sendmoney.v2+json</code>
<code>Basic-Authorization</code>	<code>Basic dXNlcm5hbWU6cGFzc3dvcmQ=</code>

Note: The `Basic-Authorization` will be provided to you during the onboarding process.

Example request body in JSON format

```
{
  "amount" : 1000,
  "type" : "RECEIVER",
  "requestId" : "9d7cead6-3532-4028-94ef-666f426f7f74",
  "transactionId" : "TRX220132AM",
  "sender" : {
    "type" : "CASH",
    "firstName" : "Mark",
```

```
"lastName" : "Smith",
"street" : "Olszewskiego",
"houseNumber" : "17A",
"city" : "Lublin",
"postalCode" : "20-400",
"flatNumber" : "2",
"email" : "senderEmail@verestro.com",
"personalId" : "AGC688910",
"country" : "PL"
},
"receiver" : {
  "type" : "PLAIN",
  "firstName" : "Rob",
  "lastName" : "Wring",
  "birthDate" : "2024-03-19",
  "cardNumber" : "5117964247989169",
  "currency" : "PLN",
  "countryOfResidence" : "PL"
},
"additionalData" : {
  "note" : "Restaurant. Tip for Joe Doe"
},
"transactionReason" : "Test document transaction"
}
```

Parameter	Type	Description
amount	number required	The total transfer amount (in pennies).
type	string required	Transaction in SENDER or RECEIVER currency, for specific transaction type. CARD_CARD : above, CASH_CARD : RECEIVER , CASH_CARD : SENDER .
requestId	string required	UUID generated by the the client, used to identify single transaction. Ensures that the transaction with the given parameter is processed only once.

<code>transactionId</code>	string required	UUID generated by the the client to assign transaction identifier.
<code>sender</code>	object required	Object containing datailed payer's data.
<code>sender.type</code>	string required	For this configuration the value of this field must be <code>CASH</code> , otherwise request will be declined.
<code>sender.firstName</code>	string required	Payers's first name.
<code>sender.lastName</code>	string required	Payers's last name.
<code>sender.street</code>	string required	Payer's address.
<code>sender.houseNumber</code>	string required	Payer's house number.
<code>sender.city</code>	string required	Payer's city.
<code>sender.postalCode</code>	string required	Payer's postal code.
<code>sender.flatNumber</code>	string required	Payer's flat number.
<code>sender.personalId</code>	string	Payer's personal id.
<code>sender.country</code>	string required	Country code in accordance with ISO 3166-1 Alpha-2. Is required for terminal crypto
<code>receiver</code>	object required	Object containing datailed receiver's data.
<code>receiver.type</code>	string required	For this configuration the value of this field must be <code>PLAIN</code> , otherwise request will be declined.

<code>receiver.firstName</code>	string required	Receiver's first name.
<code>receiver.lastName</code>	string required	Receiver's last name.
<code>receiver.birthDate</code>	string required	Receiver's birth day.
<code>receiver.cardNumber</code>	string required	Receiver's card number PAN.
<code>receiver.currency</code>	string required	Currency for transaction. For example: PLN.
<code>receiver.countryOfResidence</code>	string	Country code in accordance with ISO 3166-1 Alpha-2. Is required for terminal crypto
<code>additionalData</code>	object	Object allowing the transaction initiator to add an additional information of the transaction.
<code>additionalData.note</code>	string required	Note for the transaction. @Length(min = 0, max = 150), @Pattern(regex = <code>^(?!\\s*\$)(?!.*[\\r\\n]).+\$</code>)

CASH-PLAIN-WITH-CALCULATE-COMMISSION-RESULT

Headers	
Key	Value
<code>Content-Type</code>	<code>application/vnd.sendmoney.v2+json</code>
<code>Basic-Authorization</code>	<code>Basic dXNlcm5hbWU6cGFzc3dvcmQ=</code>

Note: The `Basic-Authorization` will be provided to you during the onboarding process.

Example request body in JSON format

```
{
  "calculateCommissionUuid" : "58elfc52-dab0-46a2-9198-45eb34024c83",
  "amount" : 1000,
  "type" : "RECEIVER",
  "requestId" : "2b76bfd8-cfe5-4858-a145-eaed73b8cd9c",
  "transactionId" : "TRX220132AM",
  "sender" : {
    "type" : "CASH",
    "firstName" : "Mark",
    "lastName" : "Smith",
    "street" : "Olszewskiego",
    "houseNumber" : "17A",
    "city" : "Lublin",
    "postalCode" : "20-400",
    "flatNumber" : "2",
    "email" : "senderEmail@verestro.com",
    "personalId" : "AGC688910",
    "country" : "PL"
  },
  "receiver" : {
    "type" : "PLAIN",
    "firstName" : "Rob",
    "lastName" : "Wring",
    "birthDate" : "2024-03-19",
    "cardNumber" : "5117964247989169",
    "currency" : "PLN",
    "countryOfResidence" : "PL"
  }
}
```

Parameter	Type	Description
amount	number required	The total transfer amount (in pennies).

<code>type</code>	string required	Transaction in <code>SENDER</code> or <code>RECEIVER</code> currency, for specific transaction type. <code>CARD_CARD</code> : above, <code>CASH_CARD</code> : <code>RECEIVER</code> , <code>CASH_CARD</code> : <code>SENDER</code> .
<code>requestId</code>	string required	UUID generated by the the client, used to identify single transaction. Ensures that the transaction with the given parameter is processed only once.
<code>transactionId</code>	string required	UUID generated by the the client to assign transaction identifier.
<code>calculateCommissionUuid</code>	string	Unique <code>calculateCommission</code> result identifier that allows to use calculated commission in transaction.
<code>sender</code>	object required	Object containing detailed payer's data.
<code>sender.type</code>	string required	For this configuration the value of this field must be <code>CASH</code> , otherwise request will be declined.
<code>sender.firstName</code>	string required	Payers's first name.
<code>sender.lastName</code>	string required	Payers's last name.
<code>sender.street</code>	string required	Payer's address.
<code>sender.houseNumber</code>	string required	Payer's house number.
<code>sender.city</code>	string required	Payer's city.
<code>sender.postalCode</code>	string required	Payer's postal code.
<code>sender.flatNumber</code>	string required	Payer's flat number.
<code>sender.personalId</code>	string required	Payer's personal id.
<code>sender.country</code>	string required	Payer's country.
<code>receiver</code>	object required	Object containing detailed receiver's data.

<code>receiver.type</code>	string required	For this configuration the value of this field must be <code>PLAIN</code> , otherwise request will be declined.
<code>receiver.firstName</code>	string required	Receiver's first name.
<code>receiver.lastName</code>	string required	Receiver's last name.
<code>receiver.birthDate</code>	string required	Receiver's birth day.
<code>receiver.cardNumber</code>	string required	Receiver's card number PAN.
<code>receiver.currency</code>	string required	Currency for transaction. For example: PLN.
<code>receiver.countryOfResidence</code>	string	Country code in accordance with ISO 3166-1 Alpha-2. Is required for terminal crypto

Example response body in JSON format - 202 - Accepted

```

HTTP/1.1 202 Accepted
Content-Type: application/json
Content-Length: 56

{
  "orderId" : "0621091f-a35a-4e91-a6bf-1f753304ae83"
}

```

Parameter	Type	Description
<code>orderId</code>	string(\$uuid)	The unique identifier of transaction.

Possible errors

Errors that may occur when attempting to transfer performing:

400 - Bad request

HTTP/1.1 400 Bad Request

Content-Type: application/json

Content-Length: 104

```
{
  "error" : {
    "message" : "Another transaction with the same id has already been processed."
  }
}
```

401 - Unauthorized

HTTP/1.1 401 Unauthorized

Content-Type: application/json

```
{
  "timestamp": "2021-12-22T12:39:53.168+0000",
  "status": 401,
  "error": "Unauthorized",
  "message": "ERROR_USER_NOTFOUND",
  "path": "/api/v2/client/send-money"
}
```

200 OK - Error validation

HTTP/1.1 200 OK

Content-Type: application/json; charset=ISO-8859-1

```
{
```

```
{
  "status": "ERROR_VALIDATION",
  "error": {
    "message": "Some information is missing or incorrect.",
    "errors": [{
      "field": "requestId",
      "message": [
        "may not be null"
      ]
    },
    {
      "field": "type",
      "message": [
        "may not be null"
      ]
    },
    {
      "field": "amount",
      "message": [
        "may not be null"
      ]
    }
  ]
}
```

403 - Forbidden

HTTP/1.1 403 Forbidden

Content-Type: application/json

```
{
  "timestamp": 1610464313387,
  "status": 403,
  "error": "Forbidden",
  "message": "No message available",
```

```
"path": "/client/send-money-3ds"
}
```

Note: If the fund are transferred by a **company**, all sender fields (including name, address, and contact details) must contain the company's information, not the personal details of an individual. The data should be provided in accordance with the requirements outlined in the table below.

Business Name	firstName	lastName
Company	Company	Company
Fine Company	Fine	Company
Big Company International	Big	Company Integrnational

Calculate commission payout

This method is used to receive information about the commission that will be charged for the transaction. You have to specify in the field: type two values (`SENDER` or `RECEIVER`). For Payouts the value must be `RECEIVER`. The method allows you to calculate commissions for the currencies that have been entered. Result of this method can be used in transaction by passing `calculateCommissionUuid` from the response.

POST /client/calculate-commission/payout

Headers

Key	Value
Content-Type	application/json
Basic-Authorization	Basic dXNlcm5hbWU6cGFzc3dvcmQ=

Example request body in JSON format

```

{
  "amount" : 100,
  "type" : "RECEIVER",
  "sender" : {
    "type" : "CASH"
  },
  "receiver" : {
    "type" : "PLAIN",
    "cardNumber" : "5575167825713507",
    "currency" : "PLN"
  }
}

```

Parameter	Type	Description
amount	number required	The total transfer amount (in pennies)
type	string required	Value for specific transaction type. Must be <code>RECEIVER</code> .
sender	object required	Object containing detailed payer's data.
sender.type	string required	Required configuration per request. Must be <code>CASH</code> type.
receiver	object required	Object containing detailed receiver's data.
receiver.type	string required	For this configuration the value of this field must be <code>PLAIN</code> , otherwise request will be declined.
receiver.cardNumber	string required	Receiver's card number PAN.
receiver.currency	string required	Currency for transaction. For example: PLN.

Example response body in JSON format - 200 - OK

HTTP/1.1 200 OK

Content-Type: application/json

Content-Length: 186

```
{
  "calculateCommissionUuid" : "6d43d706-570e-47bd-be48-976c0c9b23b8",
  "depositChargeAmount" : 200,
  "depositChargeCurrency" : "PLN",
  "calculateCommissionExpiration" : 1710893068
}
```

Parameter	Type	Description
<code>calculateCommissionUuid</code>	string	Unique identifier that can be used in authorization to use calculate commission result.
<code>depositChargeAmount</code>	number	Amount that will be charged from deposit in pennies
<code>depositChargeCurrency</code>	string	Deposit currency
<code>calculateCommissionExpiration</code>	number	Expiration date of calculate commission result in unix time

Possible errors

422 - Unprocessable entity

HTTP/1.1 422 Unprocessable Entity

Content-Type: application/json

Content-Length: 184

```
{
  "status" : "E0152",
```

```
"message" : "Transaction rejected, issuer card not supported",  
"httpStatus" : "UNPROCESSABLE_ENTITY",  
"traceId" : "483ba538-ff94-41eb-b54d-34d1a6336ddb"  
}
```

500 - Internal server error

HTTP/1.1 500 Internal Server Error

Content-Type: application/json

Content-Length: 150

```
{  
  "status" : "E9000",  
  "message" : "Domain error",  
  "httpStatus" : "INTERNAL_SERVER_ERROR",  
  "traceId" : "edeb0c72-2b63-4be4-81d3-a5a878609726"  
}
```

Currency rate by provider

This method is used for determine currency rate for revaluation from funding to payment (`lowerRate`) and payment to funding (`higherRate`). Notice that `lowerRate` is used to transaction processing.

Tip: Payout API allows users to select the direction of revaluation by providing specify type value in `orderPayout` request. User by selecting `type` = `SENDER` defines amount of funding in given currency. This amount is collected from sender card in selected currency. In case there's need revaluation from one currency to another, system uses `lowerRate` .

POST /client/currency-rate

Headers	
Key	Value
Content-Type	application/json
Basic-Authorization	Basic dXNlcm5hbWU6cGFzc3dvcmQ=

Example request body in JSON format

```
{
  "provider" : "MASTERCARD",
  "from" : "USD",
  "to" : "PLN",
  "effectiveDate" : "2017-06-05 12:00:00"
}
```

Parameter	Type	Description
provider	string required	VISA or MASTERCARD or MAESTRO.
from	string required	Source revaluation currency.
to	string required	Destination revaluation currency.
effectiveDate	string	Date from which the currency rate is needed. This is optional field. When there is no effectiveDate field, then currency rate is getting from request date. (Format "yyyy-MM-ddHH:mm:ss")

Example response body in JSON format - 200 - OK

HTTP/1.1 200 OK

Content-Type: application/json

Content-Length: 104

```
{
  "status" : "SUCCESS",
  "success" : {
    "lowerRate" : 3.735908,
    "higherRate" : 3.8522295
  }
}
```

Parameter	Type	Description
<code>status</code>	string	Status of the revaluation.
<code>success</code>	object	Rate for revaluation.
<code>success.lowerRate</code>	decimal	Rate for revaluation from funding to payment
<code>success.higherRate</code>	decimal	Rate for revaluation from payment to funding

Possible errors

200 - OK

HTTP/1.1 200 OK

Content-Type: application/json; charset=UTF-8

```
{
  "status": "CURRENCY_INVALID",
  "error": {
    "message": "Invalid currency."
  }
}
```

```
}
```

HTTP/1.1 200 OK

Content-Type: application/json;charset=UTF-8

```
{
  "status": "CURRENCY_RATES_INVALID",
  "error": {
    "message": "Invalid currency rates."
  }
}
```

HTTP/1.1 200 OK

Content-Type: application/json;charset=UTF-8

```
{
  "status": "ERROR_VALIDATION",
  "error": {
    "message": "Some information is missing or incorrect.",
    "errors": [
      {
        "field": "sender.currency",
        "message": [
          "Currency is not supported"
        ]
      },
      {
        "field": "receiver.currency",
        "message": [
          "Currency is not supported"
        ]
      }
    ]
  }
}
```

Check status

The method allows to get a status of multi-currency transfer providing transfer order id in the method's URL address. Parameter order id was returned in the response of the [orderPayout](#) method.

GET /client/send-money/details/{orderId}

Headers

Key	Value
Content-Type	application/json
Basic-Authorization	Basic dXNlcm5hbWU6cGFzc3dvcmQ=

Query parameter

Query parameter	Value
orderId	<UUID of the ordered transfer>

Example response body in JSON format - 200 - OK

```
{
  "transactionId" : "TRX220132AM",
  "amount" : 1000,
  "amountInUsDollar" : 268,
  "bigDecimalAmount" : 10.0,
  "commission" : 200,
  "bigDecimalCommission" : 2.0,
  "orderId" : "00549d98-08cb-45d2-8673-4dcafa81f498",
  "createdDate" : "03-04-2018, 14:01",
  "fundingRrn" : "014011103023",
  "paymentRrn" : "014011103024",
  "arn" : "05411640143500000019325",
  "3DS" : true,
  "revaluationResult" : {
    "revaluationFundingAmount" : 1000,
    "bigDecimalRevaluationFundingAmount" : 10.0,
```

```
"fundingCurrency" : "PLN",
"revaluationPaymentAmount" : 1000,
"bigDecimalRevaluationPaymentAmount" : 10.0,
"paymentCurrency" : "PLN",
"determineCurrencyRate" : {
  "from" : "PLN",
  "to" : "PLN",
  "currencyRate" : "1"
}
},
"receiver" : {
  "firstName" : "John",
  "lastName" : "Novak",
  "provider" : "MASTERCARD",
  "hiddenCardNumber" : "557455*****1623",
  "bankName" : "Alior Bank SA"
},
"sender" : {
  "firstName" : "Caroline",
  "lastName" : "Novak",
  "provider" : "MASTERCARD",
  "hiddenCardNumber" : "511796*****9169",
  "bankName" : "Alior Bank SA"
}
}
```

Response parameters

Parameter	Type	Description
<code>amount</code>	number	Amount of the transferred cash of the currency in pennies [1PLN = 100].
<code>amountInUsDollar</code>	number	Amount of the transferred cash in pennies in USD currency [1PLN = 100].
<code>bigDecimalAmount</code>	number	Amount of the transferred cash with decimal precision.

<code>commission</code>	number	Amount of the commission added to the ordered transfer in pennies [1PLN = 100]
<code>bigDecimalCommission</code>	number	Amount of the commission added to the ordered transfer with decimal precision.
<code>orderId</code>	string	Unique transaction identifier.
<code>transactionId</code>	string	This parameter is used to send you your own internal transaction identifier. This field is also sent by the webhook method.
<code>createdDate</code>	string	Date of transaction order.
<code>fundingRrn</code>	string	Funding retrieval reference number.
<code>paymentRrn</code>	string	Payment retrieval reference number.
<code>arn</code>	string	Acquirering institution reference number.
<code>3DS</code>	boolean	The value: <code>true</code> / <code>false</code> informs whether 3DS was performed or not.
<code>revaluationResult</code>	object	Detailed information about revaluation between sender currency and receiver currency.
<code>revaluationResult.revaluationFundingAmount</code>	number	Amount of the funding transaction in <code>fundingCurrency</code> in pennies [1PLN = 100].
<code>revaluationResult.bigDecimalRevaluationFundingAmount</code>	number	Amount of the funding transaction in decimal precision.
<code>revaluationResult.fundingCurrency</code>	string	Currency code the same as sender's card currency.
<code>revaluationResult.revaluationPaymentAmount</code>	number	Amount of the payment transaction in <code>paymentCurrency</code> in pennies [1PLN = 100].
<code>revaluationResult.bigDecimalRevaluationPaymentAmount</code>	number	Amount of the payment transaction in decimal precision.

<code>revaluationResult.paymentCurrency</code>	string	Currency code the same as receivers's card currency.
<code>revaluationResult.determineCurrencyRate</code>	object	Details about currency conversion.
<code>revaluationResult.determineCurrencyRate.from</code>	number	Currency covered "from".
<code>revaluationResult.determineCurrencyRate.to</code>	number	Result of the conversion.
<code>revaluationResult.determineCurrencyRate.currencyRate</code>	number	Currency rate.

Possible errors

203 - Non-authoritative information

Important! After you get 203 and if you don't get a response (200 - succeeded or 500 - declined) within 60 seconds then please contact us.

HTTP/1.1 203 Non-Authoritative Information

401 - Unauthorized

```
{
  "timestamp": "2023-03-29T19:16:01.288+00:00",
  "status": 401,
  "error": "Unauthorized",
  "path": "/api/v1/transactions/9609a08e-cd80-4e6e-8664-f1e6b2f2dc50"
}
```

404 - Not found

HTTP/1.1 404 Not Found

Content-Type: application/json

Content-Length: 51

```
{
  "errorStatus" : "ERROR_TRANSACTION_NOT_FOUND"
}
```

422 - Unprocessable entity

HTTP/1.1 422 Unprocessable Entity

Content-Type: application/json

Content-Length: 1287

```
{
  "transactionId" : "TRX220132AM",
  "amount" : 1000,
  "amountInUsDollar" : 268,
  "bigDecimalAmount" : 10.0,
  "commission" : 200,
  "bigDecimalCommission" : 2.0,
  "orderId" : "00549d98-08cb-45d2-8673-4dcafa81f498",
  "createdDate" : "03-04-2018, 14:01",
  "fundingRrn" : "014011103023",
  "paymentRrn" : "014011103024",
  "arn" : "05411640143500000019325",
  "3DS" : true,
  "revaluationResult" : {
    "revaluationFundingAmount" : 1000,
    "bigDecimalRevaluationFundingAmount" : 10.0,
    "fundingCurrency" : "PLN",
    "revaluationPaymentAmount" : 1000,
    "bigDecimalRevaluationPaymentAmount" : 10.0,
    "paymentCurrency" : "PLN",
    "determineCurrencyRate" : {
```

```
    "from" : "PLN",
    "to" : "PLN",
    "currencyRate" : "1"
  }
},
"receiver" : {
  "firstName" : "John",
  "lastName" : "Novak",
  "provider" : "MASTERCARD",
  "hiddenCardNumber" : "557455*****1623",
  "bankName" : "Alior Bank SA"
},
"sender" : {
  "firstName" : "Caroline",
  "lastName" : "Novak",
  "provider" : "MASTERCARD",
  "hiddenCardNumber" : "511796*****9169",
  "bankName" : "Alior Bank SA"
},
"transactionStatus" : "DECLINED",
"cardBlockType" : "TEMP",
"cardBlockedUntil" : "2024-03-21T01:04:17.573",
"errorStatus" : "ERROR_SENDER_CARD_IS_BLOCKED"
}
```

422 - Unprocessable entity CASH-CARD

HTTP/1.1 422 Unprocessable Entity

Content-Type: application/json

Content-Length: 1358

```
{
  "transactionId" : "TRX220132AM",
  "amount" : 1000,
  "amountInUsDollar" : 268,
```

```
"bigDecimalAmount" : 10.0,
"commission" : 200,
"bigDecimalCommission" : 2.0,
"orderId" : "00549d98-08cb-45d2-8673-4dcafa81f498",
"createdDate" : "03-04-2018, 14:01",
"fundingRrn" : "014011103023",
"paymentRrn" : "014011103024",
"arn" : "05411640143500000019325",
"3DS" : false,
"revaluationResult" : {
  "revaluationFundingAmount" : 1000,
  "bigDecimalRevaluationFundingAmount" : 10.0,
  "fundingCurrency" : "PLN",
  "revaluationPaymentAmount" : 1000,
  "bigDecimalRevaluationPaymentAmount" : 10.0,
  "paymentCurrency" : "PLN",
  "determineCurrencyRate" : {
    "from" : "PLN",
    "to" : "PLN",
    "currencyRate" : "1"
  }
},
"receiver" : {
  "firstName" : "John",
  "lastName" : "Novak",
  "provider" : "MASTERCARD",
  "hiddenCardNumber" : "557455*****1623",
  "bankName" : "Alior Bank SA"
},
"sender" : {
  "firstName" : "Caroline",
  "lastName" : "Novak",
  "provider" : "CASH"
},
"transactionStatus" : "DECLINED",
"merchantSettlementCurrency" : "USD",
"fenigeCommissionInMerchantSettlementCurrency" : 0.05,
```

```
"transactionAmountInMerchantSettlementCurrency" : 2.68,  
"cardBlockType" : "TEMP",  
"cardBlockedUntil" : "2024-03-21T01:04:18.165",  
"errorStatus" : "ERROR_SENDER_CARD_IS_BLOCKED"  
}
```

500 - Internal server error

```
HTTP/1.1 500 Internal Server Error  
Content-Type: text/plain; charset=ISO-8859-1  
  
PAYMENT_TRANSACTION_DECLINED:CODE_05
```

Webhook

This method allow you to receive notification after the ordered transaction. After handling the request from Verestro system, you will be notified of the current status of the transaction. Then you can be sure that the transaction processing was finished and you can get the transaction details if you want to. This functionality is optional and it is not required to use Payout solution.

Note: To use the webhooks functionality, please notify Verestro Sales Department. After that we will configure URL address and a secret token which you will be using to communicate with webhook service. Please notice you must specify the URL - webhook will be sent to this address. The secret token will be generated by the Verestro employee and sent to the client.

Sequence diagram presenting webhook process

```
@startuml  
skinparam ParticipantPadding 30  
skinparam BoxPadding 30  
skinparam noteFontColor #FFFFFF  
skinparam noteBackgroundColor #1C1E3F
```

```

skinparam noteBorderColor #1C1E3F
skinparam noteBorderThickness 1
skinparam sequence {
ArrowColor #1C1E3F
ArrowFontColor #1C1E3F
ActorBorderColor #1C1E3F
ActorBackgroundColor #FFFFFF
ActorFontStyle bold
ParticipantBorderColor #1C1E3F
ParticipantBackgroundColor #1C1E3F
ParticipantFontColor #FFFFFF
ParticipantFontStyle bold
LifeLineBackgroundColor #1C1E3F
LifeLineBorderColor #1C1E3F
}
participant "Customer" as c
participant "Verestro" as v
c->>v: Transaction request
c<-v: Response
v->>v: Transaction processing...
v->>c: Transaction processing finished callback (webhook)
c->>v: Response HTTP Status 200 OK
@enduml

```

You must return HTTP status 200 OK after receiving webhook. Otherwise our server will retry the request. There are 3 attempts of requesting webhook. Every repeat is executed with 5 seconds interval excluding timeout from your server.

Tip: In order to protect client API by polling or other undesirable actions, the webhook service uses headers. If you want to use get webhook notification, you need to handle required headers on your side.

Tip: To build `X-MERCHANT-SECRET` header:

1. Concatenate secret token established by you and Verestro's employee with `orderId` of transaction
2. Hash with SHA256 function result of above operation

Example of X-MERCHANT-SECRET building

```
import hashlib
```

```
# secret token established by client with verestro's employee
secret = 'mNaU9TaK4m9myYYFBJgKu8slNH2fCKutJyzXwI'

# orderId received from webhook's request
order_id = 'c168a885-acfa-4a91-alad-ed7a042b7238'

# concatenate strings in correct order
concatenated = secret + order_id

# use SHA256 hashing function
hashed = hashlib.sha256(concatenated.encode('utf-8')).hexdigest()

# then compare 'hashed' variable with content of 'X-MERCHANT-SECRET' header
```

There are three possible states of the webhook: `TRANSACTION_APPROVED`, `TRANSACTION_DECLINED` or `TRANSACTION_REVERSED`. Each of the webhooks is presented below:

Headers	
Key	Description
<code>X-MERCHANT-SECRET</code>	SHA256 Hash string composed from secret token and orderId placed in request body of this webhook
<code>X-MERCHANT-TIMESTAMP</code>	Timestamp of server response in UNIX format for instance: 1614023731

TRANSACTION_APPROVED

```
Content-Type: application/json
X-MERCHANT-SECRET: 3cbd17f561150a1394cabbe2b6031fd83f3f3081abe28c32b7fed16f32aebc4a
X-MERCHANT-TIMESTAMP: 1614800720
{
  "orderId": "c168a885-acfa-4a91-alad-ed7a042b7238",
  "transactionId": "TRX220132AM",
  "status": "APPROVED",
  "responseCode": "CODE_00",
  "amount": 900,
  "amountCurrency": "PLN",
  "amountInUsDollar": 248,
```

```
"revaluationResult": {
  "revaluationFundingAmount": 900,
  "bigDecimalRevaluationFundingAmount": 9,
  "fundingCurrency": "PLN",
  "revaluationPaymentAmount": 900,
  "bigDecimalRevaluationPaymentAmount": 9,
  "paymentCurrency": "PLN",
  "determineCurrencyRate": {
    "from": "PLN",
    "to": "PLN",
    "currencyRate": "1"
  }
},
"commissionAmount": 46,
"commissionCurrency": "PLN"
}
```

TRANSACTION_DECLINED

Content-Type: application/json

X-MERCHANT-SECRET: 3cbd17f561150a1394cabbe2b6031fd83f3f3081abe28c32b7fed16f32aebc4a

X-MERCHANT-TIMESTAMP: 1614800720

```
{
  "orderId": "42e8a03a-eb2e-4208-b99b-ac2ad6308498",
  "transactionId": "TRX220132AM",
  "status": "DECLINED",
  "responseCode": "CODE_05",
  "errorMessage": "FUNDING_TRANSACTION_DECLINED:CODE_05",
  "amount": 900,
  "amountCurrency": "PLN",
  "amountInUsDollar": 248,
  "revaluationResult": {
    "revaluationFundingAmount": 900,
    "bigDecimalRevaluationFundingAmount": 9,
    "fundingCurrency": "PLN",
    "revaluationPaymentAmount": 900,
    "bigDecimalRevaluationPaymentAmount": 9,
```

```
"paymentCurrency": "PLN",
"determineCurrencyRate": {
  "from": "PLN",
  "to": "PLN",
  "currencyRate": "1"
},
"commissionAmount": 46,
"commissionCurrency": "PLN",
"merchantAdviceCode": "03 - Do not try again"
}
```

TRANSACTION_REVERSED

Content-Type: application/json

X-MERCHANT-SECRET: 3cbd17f561150a1394cabbe2b6031fd83f3f3081abe28c32b7fed16f32aebc4a

X-MERCHANT-TIMESTAMP: 1614800720

```
{
  "orderId": "1b498361-f8db-406e-943b-ca2b12b7aa38",
  "transactionId": "TRX220132AM",
  "status": "REVERSED",
  "responseCode": "CODE_00",
  "amount": 1000,
  "amountCurrency": "PLN",
  "amountInUsDollar": 273,
  "revaluationResult": {
    "revaluationFundingAmount": 1000,
    "bigDecimalRevaluationFundingAmount": 10,
    "fundingCurrency": "PLN",
    "revaluationPaymentAmount": 262,
    "bigDecimalRevaluationPaymentAmount": 2.62,
    "paymentCurrency": "USD",
    "determineCurrencyRate": {
      "from": "PLN",
      "to": "USD",
      "currencyRate": "0.2616157"
    }
  }
}
```

```
    }  
  },  
  "commissionAmount": 1,  
  "commissionCurrency": "PLN"  
}
```

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