

# FlexPay Subscription API v3

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## Introduction

FlexPay API allows dynamically set parameters for Verotel Order Pages. This is especially useful when integrating with eCommerce or other systems which use dynamic pricing.

FlexPay version 3 offers two types of orders:

- **purchase**
- **subscription**

The main difference between purchase and subscription is that **subscription** has some duration - a time period - for which it is active while **purchase** is just a simple one-off sale.

The subscriptions can be of two types:

- **"one-time"** subscriptions - simply expire after a given time.
- **"recurring"** subscriptions - Verotel will attempt to rebill the buyer periodically until the subscription is cancelled or terminated. Recurring subscriptions can have a trial period.

This document provides the description of **v3 FlexPay Subscription API**.

## Setup

- Create a FlexPay website in *Control Center* > *Setup Websites*. From the *Website detail* page you will now have access to several configuration options.

### ADD A NEW WEBSITE

How do you want integrate Verotel into your website? Please, select one of the following options:

<b>Membership</b> - Ideal for websites with paid members' area.  We take care not only of charging your customers but we will also manage their access to your members' area using Verotel Remote User Management.	>
<b>FlexPay</b> - Ideal for cam sites, websites with pre-paid credit or websites selling tangible products.  FlexPay is really easy and simple to implement. It is perfect for one-time payments. You simply send your customer to our orderpage telling us how much we should charge him. When we successfully charge the user, your system is notified via Postback URL so you can respond to it (add credit to user, allow file download etc.)	>

- Configure the **"Postback script"** and the **"Success page"** URLs in *FlexPay options* page.  
[\(SEE POSTBACK SUMMARY AND DATA POSTED TO SUCCESS URL UPON THE FLEXPAY SUBSCRIPTION TRANSACTION \(OK DATA\)\)](#)

### FLEXPAY OPTIONS #64233

Payment methods

Credit card

Available worldwide

Direct Debit EU

Available only in DE, AT, CH, BE, IT, NL, ES and FR

Bitcoin

Available worldwide

Postback script URL

Success URL

- As subscription FlexPay only supports Credit card payment method, this method needs to be enabled in order for the "startorder" request to work.

### FLEXPAY OPTIONS #64233

#### Payment methods

Credit card

Available worldwide

Direct Debit EU

Available only in DE, AT, CH, BE, IT, NL, ES and FR

Bitcoin

Available worldwide

- Get the FlexPay "**Signature Key**" - this can be found on the same page. This key is used for calculating signatures to ensure integrity of data in requests and postbacks ([SEE CALCULATING SIGNATURE](#)).

**FLEXPAY REQUEST DATA**

Shop ID and Signature Key are required to generate FlexPay signature.

Signature Key: DKeweGGsPAhc3bfJJqhbGkKEgz46GQ

- Customize the order page to match your website design

**ORDERPAGE DESIGN SETUP**

ORDERPAGE STYLE

Background color

without #, e.g. FFFFFFFF

Please enter a hexadecimal RGB value which is 6 characters long.

Foreground color

without #, e.g. 000000

Please enter a hexadecimal RGB value which is 6 characters long.

ORDERPAGE LOGO

There is currently no logo for this website.

No changes

Upload new logo

Continue

- Additionally you can require the buyers to enter their billing address by enabling this option in the *Orderpage options* section. You can also restrict sales to one of the predefined territories.

#### ORDERPAGE OPTIONS

##### Billing address

If checked, users have to fill in the address during the order.

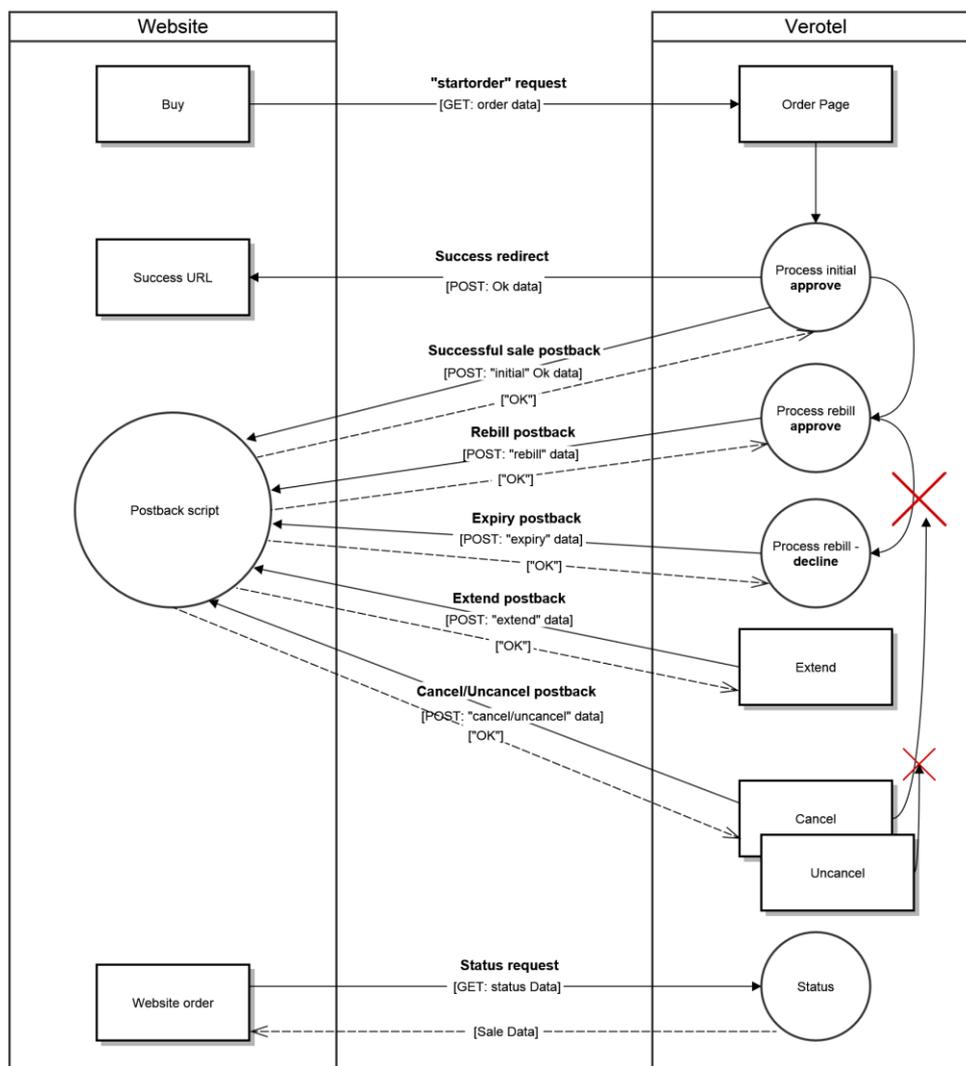
Require billing address

##### Sales territory

World ▼

- NEXT: Integrate the Verotel OrderPage to your website.

## FlexPay Subscription interactions



While FlexPay purchase is a once-off operation without any active time period, subscription has a duration for which it is active.

During this period Verotel system sends various postback calls notifying the webmaster's system about the subscription state. If the subscription is recurring, Verotel system manages periodical charges (rebills) of the buyer's credit card.

### **A new subscription order starts with a subscription "startorder" request**

The **"startorder"** subscription request is used to redirect buyer to the Verotel Order Page in order to process subscription with a given amount, duration and currency.

[SEE "CONSTRUCTING SUBSCRIPTION "STARTORDER" REQUEST"](#)

### **Once the initial transaction is successfully processed the enduser is redirected to the "success URL"**

Verotel system also sends a set of data ("OK data") describing the sale along as HTTP parameters.

[SEE "DATA POSTED TO SUCCESS URL UPON THE FLEXPAY SUBSCRIPTION TRANSACTION \(OK DATA\)"](#)

## Successful initial sale postback ("OK data") is sent in the background

The "initial" OK data postback is sent to the nominated "Postback URL" immediately after the sale has been processed.

The postback is sent only for successfully approved transactions. The data in the postback provide essential information about the sale. If more information is needed, for example billing address or email address of the buyer, the merchant should [query the status page](#).

**Important:** The Verotel system expects "OK" response otherwise an automated refund will be issued ( for Credit Card payments).

[SEE "'OK DATA' POSTBACK CALL"](#)

## The follow-up actions depend on the subscription type

### *If the subscription is "one-time"*

- a) Subscription will expire after the given period (subscription can also be terminated, by performing refund or in case Verotel receives a chargeback request) and the "expiry" postback is sent to inform the webmaster's system about the "end-of-life" event. ([SEE "'EXPIRY' POSTBACK CALL"](#))
- b) If the webmaster or Verotel staff extend the subscription from Verotel Control Center then the "extend" postback is sent. ([SEE "'CANCEL' POSTBACK CALL"](#))

### *If the subscription is "recurring"*

- a) Verotel system will attempt to rebill the enduser again at the end of the current period. If the rebill is successful the website will receive "rebill" postback. ([SEE "'REBILL' POSTBACK CALL"](#))
- b) The "expiry" postback is sent in case the last rebill got declined or the next rebill was cancelled and the subscription ended. (And of course subscription can also be terminated by performing refund or Verotel receives a chargeback request). ([SEE "'EXPIRY' POSTBACK CALL"](#))
- c) Enduser, Merchant or Verotel staff can cancel further rebills - in this case the "cancel" postback gets sent and the subscription expires at the end of the current active period. ([SEE "'CANCEL' POSTBACK CALL"](#))

The cancel action can be reverted by Verotel staff in which case the "uncancel" postback informs the webmaster's website and there will be again a rebill at the end of the current rebill period. ([SEE "'UNCANCEL' POSTBACK CALL"](#))

## Postback summary

- "initial" - Successful sale - informs about a successful initial transaction
- "extend" is sent when subscription duration is manually extended either by the webmaster or Verotel support staff
- "expiry" is sent when a subscription is terminated and ends.

Recurring subscription specific postbacks

- "rebill" informs about a successful rebill in the case of recurring subscription
- "cancel" is sent when the recurring subscription rebill is cancelled by enduser, webmaster or Verotel support. This means that although the subscription

might still be active, there will be no more rebills in the future and the subscription will expire at the end of the current period.

- "[uncancel](#)" is sent in case the subscription cancel gets reverted by Verotel support.

### Sale status request

Although it is an optional step, we recommend that you cross check the received data with the Verotel Status service. You need send the Verotel transaction ID or the sale Reference ID (if you have provided one in the "**startorder**" request) to the Verotel status script in order to verify the status of the transaction. Usually, this extra check is performed before the buyer is informed that the transaction was successfully processed. The Verotel Status service can be used anytime after the transaction took place and it will give you information about the current state of the subscription. ([SEE "FLEXPAY STATUS PAGE REQUEST"](#))

## Technical details

### Constructing subscription "startorder" request

The FlexPay subscription call is used to redirect the buyer to the Verotel Order Page in order to process one-time or recurring payment subscriptions.

The "startorder" request for FlexPay purchase consists of number of parameters passed to "<https://secure.verotel.com/startorder?>" for Verotel accounts or "<https://secure.billing.creditcard/startorder?>" for CardBilling accounts and is secured by a signature. The "subscriptionType" parameter specifies which of the two subscription types is to be created:

- "one-time" subscriptions - simply expire after the time specified in "period" parameter.
- "recurring" subscriptions - will attempt to rebill the buyer in order to stay active. The initial period can have different price and duration (set via "trialPeriod" and "trialAmount" parameters) then the following rebill periods (specified in "period" and "priceAmount" parameters).

Parameter	Type	Optional / Mandatory	Description
version	number	mandatory	version of the flexpay call, "3" for this version
shopID	number	mandatory	numerical ID of the shop or website in the Verotel system
type	string	mandatory	"subscription"
subscriptionType	string	mandatory	"one-time" or "recurring" <b>Note: DDEU only supports "one-time"</b>
priceAmount	number	mandatory	amount to be processed in nnn.nn format
priceCurrency	string	mandatory	3 char ISO code, must be one of the Sale currencies ( <b>USD, EUR, GBP, AUD, CAD, CHF, DKK, NOK, SEK</b> ) <b>Note: only EUR is can be used for DDEU payment method</b>
period	string	mandatory	duration in ISO8601 format, for example: P30D, <b>minimum is 7 days for "recurring" and 2 days for "on-time"</b>
trialAmount	number	optional <b>recurring only</b>	amount to be processed in nnn.nn format for the initial trial period, <b>minimum is 2 days</b>
trialPeriod	string	optional <b>recurring only</b>	duration in ISO8601 format, for example: P30D
name	string	optional	name of the subscription. Text is displayed on the order page
referenceID	string	optional	Merchant's reference identifier. It must be unique if provided
custom1	string	optional	pass-through variable - max 255 printable characters
custom2	string	optional	pass-through variable - max 255 printable characters
custom3	string	optional	pass-through variable - max 255 printable characters
email	string	optional	email of the buyer. If not set, it will be collected on the Order Page

			<b>NOTE:</b> email is <b>excluded</b> from signature calculations
<b>paymentMethod</b>	<i>string</i>	optional	payment method, "CC" or "DDEU" (if not set then buyers can choose from available payment methods) <b>Note:</b> DDEU is available only in DE, AT, CH, BE, IT, NL, ES and FR
<b>signature</b>	<i>string</i>	optional	security token to verify the integrity of the postback data ( <a href="#">SEE CALCULATING SIGNATURE</a> )

**Example "startorder" request:**

*https://secure.verotel.com/startorder?name=1+Month+recurring+Subscription&period=P1M&priceAmount=29.99&priceCurrency=USD&shopID=64233&type=subscription&subscriptionType=recurring&trialAmount=10&trialPeriod=P7D&version=3&signature=a1eaced551d406f0227e32759e743c6b5269f7e3*

Opens the Order Page for sale which will be recurring every 1 month and has a 7 day trial period:

**Pay by credit card** or [login with Verotel account](#)

**1 Month recurring Subscription**  
7 days for 10 USD (10.22 EUR) and then 29.99 USD (30.66 EUR) for every 1 month

Card number:

Expires on:  
-- Month -- / -- Year --

Security code (CVV):



**Data posted to success URL upon the FlexPay Subscription transaction (OK data)**

After a successful transaction, the buyer is redirected to a nominated "Success URL" and a set of data describing the sale is sent along as HTTP parameters.

Parameter	Type	Description
<b>shopID</b>	<i>number</i>	website id
<b>type</b>	<i>string</i>	"subscription"
<b>subscriptionType</b>	<i>string</i>	"one-time" or "recurring"
<b>event</b>	<i>string</i>	"initial"
<b>referenceID</b>	<i>string</i>	Merchant's reference identifier if provided.
<b>saleID</b>	<i>number</i>	identifier of the sale in the Verotel system
<b>priceAmount</b>	<i>number</i>	amount processed in nnn.nn format
<b>priceCurrency</b>	<i>string</i>	3 char ISO code of the Sale currency
<b>period</b>	<i>number</i>	subscription duration in ISO8601 format
<b>trialAmount</b>	<i>number</i>	amount processed in nnn.nn format for the initial trial period
<b>trialPeriod</b>	<i>string</i>	duration in ISO8601 format
<b>expiresOn or nextChargeOn</b>	<i>date</i>	date of next rebill or expiry date [yyyy-mm-dd] e.g "2015-04-24"

Parameter	Type	Description
<b>custom1</b>	<i>string</i>	pass-through variable - max 255 printable characters
<b>custom2</b>	<i>string</i>	pass-through variable - max 255 printable characters
<b>custom3</b>	<i>string</i>	pass-through variable - max 255 printable characters
<b>paymentMethod</b>	<i>string</i>	used payment method
<b>signature</b>	<i>string</i>	security token to verify the integrity of the postback data ( <a href="#">SEE CALCULATING SIGNATURE</a> )

### 'OK data' postback call

OK data postback is sent to the postback URL immediately after the sale has been processed.

OK data is sent only for successfully approved transactions. The data in the postback provide essential information about the sale. If more information is needed, for example billing address or email address of the buyer, the merchant should query the [status page](#).

**Important:** The Verotel system expects "OK" response otherwise an automated refund will be issued.

Parameter	Type	Description
shopID	number	numerical ID of the shop or website in the Verotel system
type	string	"subscription"
subscriptionType	string	"one-time" or "recurring"
event	string	"initial"
referenceID	string	merchant reference identifier. It must be unique if provided
saleID	number	identifier of the sale in the Verotel system
priceAmount	number	amount to be processed in nnn.nn format
priceCurrency	string	3 char ISO code of the Sale currency
period	number	duration in ISO8601 format, for example P30D
trialAmount	number	amount charged for the trial period, nnn.nn format.
trialPeriod	string	duration in ISO8601 format, for example P30D
expiresOn or nextChargeOn	date	date when the cancelled or one-time subscription expires, or date of the next planned rebill [yyyy-mm-dd] e.g "2015-04-24"
custom1	string	pass-through variable - max 255 printable characters
custom2	string	pass-through variable - max 255 printable characters
custom3	string	pass-through variable - max 255 printable characters
paymentMethod	string	payment method used for the payment, "CC". or "DDEU".
signature	string	security token to verify the integrity of the postback data ( <a href="#">SEE CALCULATING SIGNATURE</a> )

### 'Rebill' Postback call

Rebill postback call is sent to the merchant's URL immediately after a successful rebill transaction.

Parameter	Type	Description
shopID	number	numerical ID of the shop or website in the Verotel system
type	string	"subscription"
subscriptionType	string	"recurring"
event	string	"rebill"
referenceID	string	Merchant's reference identifier if provided
saleID	number	identifier of the sale in the Verotel system
amount	number	amount processed in nnn.nn format
currency	string	3 char ISO code of the Sale currency
nextChargeOn	date	date of the next planned rebill [yyyy-mm-dd] e.g "2015-04-24"
subscriptionPhase	string	"normal" (or "discounted" if cancel discount was accepted - not yet supported)
custom1	string	pass-through variable - max 255 printable characters
custom2	string	pass-through variable - max 255 printable characters
custom3	string	pass-through variable - max 255 printable characters
paymentMethod	string	payment method used for the payment, "CC" or "DDEU"

Parameter	Type	Description
<b>signature</b>	<i>string</i>	security token to verify the integrity of the postback data ( <a href="#">SEE CALCULATING SIGNATURE</a> )

### 'Cancel' Postback call

Cancel postback call is sent to the merchant's URL after the subscription is cancelled by the buyer, merchant, Verotel support or by the system.

Parameter	Type	Description
<b>shopID</b>	<i>number</i>	numerical ID of the shop or website in the Verotel system
<b>type</b>	<i>string</i>	" <b>subscription</b> "
<b>subscriptionType</b>	<i>string</i>	" <b>recurring</b> "
<b>event</b>	<i>string</i>	" <b>cancel</b> "
<b>referenceID</b>	<i>string</i>	merchant reference identifier if provided
<b>saleID</b>	<i>number</i>	identifier of the sale in the Verotel system
<b>expiresOn</b>	<i>date</i>	date when the cancelled subscription expires [yyyy-mm-dd] e.g "2015-04-24"
<b>subscriptionPhase</b>	<i>string</i>	" <b>trial</b> ", " <b>normal</b> " (or " <b>discounted</b> " if cancel discount was accepted - not yet supported)
<b>cancelledBy</b>	<i>string</i>	" <b>user</b> ", " <b>support</b> ", " <b>merchant</b> ", or " <b>system</b> "
<b>custom1</b>	<i>string</i>	pass-through variable - max 255 printable characters
<b>custom2</b>	<i>string</i>	pass-through variable - max 255 printable characters
<b>custom3</b>	<i>string</i>	pass-through variable - max 255 printable characters
<b>signature</b>	<i>string</i>	security token to verify the integrity of the postback data ( <a href="#">SEE CALCULATING SIGNATURE</a> )

### 'Uncancel' Postback call

Occasionally, buyers wish to revert cancellation of their subscription. Uncancel can be done only by Verotel support. The postback call is sent to the merchant's postback URL immediately after the subscription was uncancelled.

Parameter	Type	Description
<b>shopID</b>	<i>number</i>	numerical ID of the shop or website in the Verotel system
<b>type</b>	<i>string</i>	" <b>subscription</b> "
<b>subscriptionType</b>	<i>string</i>	" <b>recurring</b> "
<b>event</b>	<i>string</i>	" <b>uncancel</b> "
<b>referenceID</b>	<i>string</i>	merchant reference identifier. It must be unique if provided
<b>saleID</b>	<i>number</i>	identifier of the sale in the Verotel system
<b>nextChargeOn</b>	<i>date</i>	date of the next planned rebill
<b>subscriptionPhase</b>	<i>string</i>	" <b>trial</b> ", " <b>normal</b> " (or " <b>discounted</b> " if cancel discount was accepted - not yet supported)
<b>uncancelledBy</b>	<i>string</i>	" <b>support</b> "
<b>custom1</b>	<i>string</i>	pass-through variable - max 255 printable characters
<b>custom2</b>	<i>string</i>	pass-through variable - max 255 printable characters
<b>custom3</b>	<i>string</i>	pass-through variable - max 255 printable characters
<b>signature</b>	<i>string</i>	security token to verify the integrity of the postback data ( <a href="#">SEE CALCULATING SIGNATURE</a> )

### 'Extend' Postback call

Merchant or Verotel support may grant extra days to an active subscription. This means that the expiration date or the date of the next planned rebill gets shifted by number of days to the future. The extend postback is then sent to merchant's postback URL to notify the merchant about that the subscription got extended.

**Please note that the extend postback is also sent when the merchant has "Rebill-retry" enabled** and the first rebill is declined. In such situation the system extends the subscription as if the rebill was approved (sends the extend postback) and rebill retries are scheduled. If any of the retries is successful the subscription continues normally. If the last rebill retry fails then the subscription gets terminated early.

Parameter	Type	Description
shopID	number	numerical ID of the shop or website in the Verotel system
type	string	"subscription"
subscriptionType	string	"one-time" or "recurring"
event	string	"extend"
referenceID	string	merchant reference identifier if provided
saleID	number	identifier of the sale in the Verotel system
nextChargeOn or expiresOn	date	date when cancelled or one-time subscription expires, or date of the next planned rebill [yyyy-mm-dd] e.g "2015-04-24"
subscriptionPhase	string	"trial", "normal" (or "discounted" if cancel discount was accepted - not yet supported)
custom1	string	pass-through variable - max 255 printable characters
custom2	string	pass-through variable - max 255 printable characters
custom3	string	pass-through variable - max 255 printable characters
signature	string	security token to verify the integrity of the postback data ( <a href="#">SEE CALCULATING SIGNATURE</a> )

### 'Expiry' Postback call

Expiry postback call is sent to the merchant's postback URL when the subscription gets terminated. The reason for the termination could be the end of a cancelled subscription, declined rebill transaction, refund, chargeback or termination by Verotel support or the merchant.

Parameter	Type	Description
shopID	number	numerical ID of the shop or website in the Verotel system
type	string	"subscription"
subscriptionType	string	"recurring" or "one-time"
event	string	"expiry"
referenceID	string	Merchant's reference identifier if provided
saleID	number	identifier of the sale in the Verotel system
custom1	string	pass-through variable - max 255 printable characters
custom2	string	pass-through variable - max 255 printable characters
custom3	string	pass-through variable - max 255 printable characters
signature	string	security token to verify the integrity of the postback data ( <a href="#">SEE CALCULATING SIGNATURE</a> )

### FlexPay status page request

A status of a sale made with a FlexPay API can be reviewed by querying the status page. Status page provides complete information about the sale, the buyer, and its status.

Status request URL: "[https:// secure.verotel.com/status/order?](https://secure.verotel.com/status/order?)" (*Verotel*) or "<https://secure.billing.creditcard/status/order?>" (*CardBilling*) followed by parameters in the table below:

GET parameters in response	Description
<b>version</b>	Version of the Verotel Purchase OrderPage protocol. Currently "1", "2" or "3"
<b>shopID</b>	numerical ID of the website or shop in Verotel system
<b>referenceID</b> (optional)	Merchant's reference identifier if provided (referenceID OR saleID must be posted - NOT BOTH)
<b>saleID</b> (optional)	Verotel saleID identifier (referenceID OR saleID must be posted - NOT BOTH)
<b>signature</b>	SHA-1 hash generated on data listed above and Merchant's private key stringsha1_hex(signatureKey + ":referenceID=" + referenceID + ":saleID=" + saleID + ":shopID=" + shopID + ":version=" + version)

#### Example:

<https://secure.verotel.com/status/order?saleID=7285297&shopID=64233&version=3&signature=c36189e5c5ec38e4b51416dcacd6d1d5c715d6a9>

#### Flexpay Subscription Status response:

The date returned to the status request is in plain-text and contains lines with parameterName, colon, parameterValue:

Output parameter name	Description
<b>response</b>	search response code: "FOUND" - purchase record found and returned "NOTFOUND" - purchase not found "ERROR" - error (see 'error' key)
<b>description</b>	Product description text
<b>error</b>	error message (for response=ERROR)
<b>expired</b>	"yes" or "no"
<b>saleID</b>	a unique identifier of the transaction in Verotel System
<b>shopID</b>	numerical ID of the website or shop in Verotel system
<b>paymentMethod</b>	an identifier of payment method that was used for the transaction. Currently can be "Credit Card" or "Direct Debit EU"
<b>priceAmount</b>	amount to be processed. in nnn.nn format
<b>priceCurrency</b>	3 char ISO code of the Sale currency
<b>period</b>	duration in ISO8601 format, for example: P30D
<b>referenceID</b>	Merchant's reference identifier if provided
<b>subscriptionType</b>	"recurring" or "one-time"
<b>subscriptionPhase</b>	"trial", "normal" or "discounted"
<b>type</b>	"subscription"
<b>name</b>	name of the buyer
<b>email</b>	email address of the buyer

Output parameter name	Description
<b>country</b>	selected or detected country ISO code (ISO 3166-1-alpha-2 code)
<b>expiresOn or nextChargeOn</b>	date when the cancelled or one-time subscription expires, or date of the next planned rebill [dd-mmm-yyyy hh:mm:ss] e.g. <b>16-APR-2014 09:20:23</b>
<b>cancelled</b>	<b>yes/no</b>
<b>cancelledOn</b>	date of cancel [dd-mmm-yyyy hh:mm:ss] e.g. <b>16-APR-2014 09:20:23</b>
<b>cancelledBy</b>	<b>"user", "support", "merchant" or "system"</b>
<b>discountPrice</b>	if cancel discount was accepted, the price after discount
<b>createdOn</b>	Timestamp of sale creation (dd-mmm-yyyy hh:mm:ss) e.g. <b>16-APR-2014 09:20:23</b>
<b>saleResult</b>	purchase processing result ( <b>"APPROVED"</b> )
<b>billingAddr_fullName</b>	billing address: full name field value
<b>billingAddr_company</b>	billing address: company field value
<b>billingAddr_addressLine1</b>	billing address: 1st line field value
<b>billingAddr_addressLine2</b>	billing address: 2nd line field value
<b>billingAddr_city</b>	billing address: city name
<b>billingAddr_zip:</b>	billing address: zip code / postal code
<b>billingAddr_state</b>	billing address: US state code (ISO 3166-2)
<b>billingAddr_country</b>	billing address: country ISO code (ISO 3166-1-alpha-2 code)

#### Example response:

```

response: FOUND

shopID: 64233
paymentMethod: Credit Card
priceAmount: 51.20
priceCurrency: EUR
period: P1M
trialAmount: 2.95
trialPeriod: P3D

type: subscription
subscriptionType: recurring
description: some description of product
referenceID: AX62362I3
saleID: 13029033
createdOn: 27-DEC-2014 03:22:12
saleResult: APPROVED
name: John Black
email: black@example.com
country: GB

subscriptionPhase: trial
expired: no
expiresOn: 30-DEC-2015
cancelled: yes
cancelledOn: 28-DEC-2014
cancelledBy: user
discountPrice: 3.95

billingAddr_fullName: John Black
billingAddr_company:

```

```
billingAddr_addressLine1: Longstreet 3782/13
billingAddr_addressLine2:
billingAddr_city: London
billingAddr_zip: 73811
billingAddr_state:
billingAddr_country: GB
```

## Calculating signature

The signature used in FlexPay requests and postbacks is calculated as SHA-1 hash (hexadecimal output) from the request parameters.

The first parameter has to be your signatureKey, followed by the parameters ordered alphabetically by their names.

Optional arguments that are used (have value) must be contained in the signature calculation.

Optional arguments that are not used must not be contained in the signature calculation.

The email parameter in "startorder" request is not included in the signature calculations.

It is mandatory to convert arguments values into UTF-8 before computing the signature.

e.g.

```
signature = sha1_hex( signatureKey + ":name=" + name + ":period=" + period + ":priceAmount=" + priceAmount + ":priceCurrency=" + priceCurrency + ":referenceID=" + referenceID + ":shopID=" + shopID + ":subscriptionType=" + subscriptionType + ":type=" + type + ":version=" + version )
```

**Example calculation:**

Parameter	Value
<b>(signatureKey)</b>	BddJxtUBkDgFB9kj7Zwguxde4gAqha
<b>name</b>	1 Month Subscription
<b>period</b>	P1M
<b>priceAmount</b>	9.99
<b>priceCurrency</b>	USD
<b>custom1</b>	xyyyzz
<b>subscriptionType</b>	one-time
<b>type</b>	recurring
<b>version</b>	3

```
signature = sha1_hex (BddJxtUBkDgFB9kj7Zwguxde4gAqha:custom1=xyyyzz:name=1 Month Subscription:period=P1M:priceAmount=9.99:priceCurrency=USD:shopID=64233:subscriptionType=one-time:type=subscription:version=3) => 721858402a06cf4315feef7e6ee163c05b4664d1
```

**The FlexPay subscription request then is:**

```
https://secure.verotel.com/startorder?custom1=xyyyzz&name=1+Month+Subscription&period=P1M&priceAmount=9.99&priceCurrency=USD&shopID=64233&subscriptionType=one-time&type=subscription&version=3&signature=721858402a06cf4315feef7e6ee163c05b4664d1
```