

SAVINGS BANK ONLINE PAYMENT SERVICE

USER INSTRUCTIONS AND RECORD DESCRIPTIONS



Säästöpankki

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1 General

These instructions define the requirements for service implementation for the seller company, as well as data record descriptions for building the system.

E-commerce is constantly increasing. Through the Savings Bank online payment service, customers can effortlessly, quickly and safely purchase products over the Internet.

The implementation requires that the selling company's system has the capacity to create an electronic invoice through WWW technology and generate the information required for the Savings Bank online payment service.

If necessary, the salesperson can obtain information on the customer's payment immediately if a confirmation of a successful payment is attached to the return message. The salesperson can also verify the payment from the next bank statement or incoming reference payments. Bank statements and incoming reference payments are established in accordance with the customer agreement.

The website address for the Savings Bank online payment is <https://verkkomaksu.saastopankki.fi/vm/login.html>

The Savings Bank online payment service is available 24 hours a day.

2 Service agreement

The seller company signs a written agreement on the use of the service with the bank.

3 Payment name and logo

Only two names can be used for the bank's online payments: Säästöpankin verkkomaksu or Sparbankens nätbetalning. Other terms may not be used.

The seller company can download the logo to its server using the link below.

<https://d34vku6feucdo0.cloudfront.net/-/media/kuvat/tuotekuvat/spmaksunappi1.png?la=fi-fi&hash=591F29CFA317389EF8BB253A9B14182F345243BA>

The logo's size or colours must not be changed.

The logo/name must not be handed over or used for any other purpose than what has been agreed in the Säästöpankki's online payment agreement.

After the agreement has ended, the seller must immediately remove the Savings Bank online payment logo/name from its website.

4 Safety

All data connections related to payments between the customer and the bank are secured using the TLS 1.2 encryption method. The encryption protects all communications between the bank and the customer from being read or altered.

5 Data record descriptions

Savings Bank online payment service, FORM fields. The requests sent to the online payment app have should be POST format.

	Data	Input name INPUT NAME=	Example	Form AN=alphanumeric A=alphabetical N=numeric	C=Compulsory O=Optional
1.	Payment version	NET_VERSION	"003"	N 3	C
2.	Payment identification	NET_STAMP		AN 20	C
3.	Seller ID	NET_SELLER_ID		AN 13	C
4.	Seller account	NET_SELLER_ACC	Not in use		
5.	Seller name	NET_NAME	Not in use		
6.	Payment language	NET_LANG	Not in use		
7.	Payment amount	NET_AMOUNT	"12345,67"	AN 9	C
8.	Currency	NET_CUR	EUR	A 3	C
9.	Payment reference	NET_REF		N 20	C
10.	Payment due date	NET_DATE	"EXPRESS"	AN 10	C
11.	Payment message	NET_MSG		AN 210	O
12.	"Return" link	NET_RETURN		AN 160	C
13.	"Cancel" link	NET_CANCEL		AN 160	C
14.	"Rejected" link	NET_REJECT		AN 160	C
15.	Payment verification	NET_MAC		AN 64	C
16.	Payment confirmation	NET_CONFIRM	YES or NO	A 3	C
17.	Algorithm	NET_ALG	03 = SHA256	N 2	C
18.	Key version	NET_KEYVERS	Not in use		

5.1 Payment version

The value 003 is used.

5.2 Payment identification

The seller gives each payment an individual identifier code. The specific payment verification can be used as key information for queries and refunds.

5.3 Seller ID

On the basis of the ID, the recipient's account number and recipient name will be generated in the payment form. The ID is recorded on the form of the contract made with the bank. The total length of the ID is 13 characters. The ID does not include any punctuation marks. E.g. if the service identifier is 9999999999 and the qualifier is 001, the seller's ID is 9999999999001.

5.4 Seller account

This field is not in use.

5.5 Seller name

This field is not in use.

5.6 Payment language

This field is not in use.

5.7 Payment amount

The maximum amount for a net payment is the maximum amount for a payment set by the user to the account in the bank. The amount cannot be lower than EUR 0.01. The amount must be given without thousand separators. The decimal separator, in the form of a comma, is obligatory. The payment amount is always presented up to two decimal points.

5.8 Currency

EUR

5.9 Payment reference

This is the normal reference to be marked on the invoice.

5.10 Payment due date

Only immediate payments are possible. The value is EXPRESS.

5.11 Payment message

If so desired, specific payment information can be added to message field in the customer's payment form. There are 210 characters in use. The characters are divided on six lines in 35-character strings.

5.12. "Return" link

This is the web page of the place of sale, which the customer returns to after a successful payment.

When leaving the place of sale, the return link can be in the form of <http://ostos.kauppa.fi/cgi-bin/valmis?suoritettu>, in which case the return link for moving from the bank to the place of sale is in the form of http://ostos.kauppa.fi/cgi-bin/valmis?suoritettu&003&01234567890123456789&123&2000010145789811234&laskettu_mac if the value of the NET_CONFIRM data field is YES.

payment service has been successfully accomplished. However, the seller can only get a complete confirmation of a successful payment from the bank statement or incoming reference payments. The seller can also make a separate account event inquiry.

If the value is “YES”, the following information will be added to the end of the return link:

NET_RETURN_VERSION	“003”
NET_RETURN_STAMP	Original specific payment verification
NET_RETURN_REF	Original payment reference number
NET_RETURN_PAID	Individual transaction ID in the bank system. information given in AN form, the maximum length of which is 20 characters.
NET_ALG	“03”, algorithm SHA256
NET_RETURN_MAC	Return data verification

The return data verification is calculated using the SHA-256 algorithm. A character string is first formed of the following data fields, in the following order:

```
NET_RETURN_VERSION&
NET_RETURN_STAMP&
NET_RETURN_REF&
NET_RETURN_PAID&
NET_ALG&
Security verification&
```

The hash value is calculated using the SHA256 algorithm. It is converted into a hexadecimal presentation format consisting of 64 characters.

For example, the character string
003&01234567890123456789&123&20000101457898111234&03&11111111111111111111111111111111& will result in
 4D580E3C797C9ACFDC465F7A66BDC7F7060AC5A75F2ABC480FE06DDB23B966D9.

5.17 Algorithm

The value “03”, i.e. the SHA-256 algorithm, is used.

5.18 Key version

Key version NET_KEYVERS is not in use. If there has to be a version for the MAC-key, “0001” can be used.

6 Testing

The seller can test the Savings Bank online payment service in the production environment by using test IDs before the actual implementation. Testing must include the data fields NET_RETURN, NET_CANCEL and NET_REJECT. In testing, the same net address is used as in production, i.e.

<https://verkkomaksu.saastopankki.fi/vm/login.html>

Please note, that clicking the link in this document does no testing functionality.

If the client cancels a payment, the link information is relayed according to the NET_CANCEL data field, and if the payment is rejected, it is relayed according to the NET_REJECT field.

Seller's service ID is: 0000000000

Only a test buyer can make payments to a test seller, and the transaction never actually takes place. The test user will be shown incorrect and missing fields. There are different pages for error situations occurring in production.

7 Implementation

The service will be available on the implementation date stated in the agreement.

8 Query function in the Savings Bank online payment

The query function in the Savings Bank online payment is a system for corporate customers who use the Savings Bank online payment button at their online shop sites. The service allows companies to make queries concerning transactions made using the Savings Bank online payment button. The main purpose of the system is to allow online shops the possibility to send queries of transactions that have, for some reason, failed in connection with payment, i.e. information on the success or failure of the payment does not reach the company's online shop system. The service allows online shop companies to ensure uncertain payment data without delay. In this way, the online shop can immediately offer the customer visiting the online shop the service or product that the customer had paid for in the online shop and that was also supposed to be delivered to the customer immediately following successful payment.

8.1 Service description

The customer returns to the online shop site from the successful payment acknowledgement page or the Savings Bank online payment system forwards the customer automatically to the online shop page. In connection with forwarding the customer, the online shop is informed of the successful payment and the online shop is able to provide the product/service to the customer immediately. If no forwarding occurs (the customer does something he/she is not supposed to do, there is an error in

the system or a communication error takes place), information on the success of payment is not transmitted to the online shop.

The company has incorporated in the online shop an event query that is launched automatically or the query is made manually when the transaction is not returned to the online shop. The query is made so that the online shop IDs function as IDs towards Samlink (just like the transfer from the online shop to the Savings Bank payment). The online shop provides the necessary identifying information on the payment, and the payment can be reliably found and sent back to the online shop based on it.

8.2 Service agreement

8.2 Service agreement on the query function

The seller company makes a written agreement with the bank on the use of the service. When the seller company has an account in one of Savings Bank group's banks, queries can be made through any bank of the group.

When the party to the agreement is a paying agent, an account number in a Savings Bank group bank is not required. An account with any Finnish bank is sufficient. A paying agent can perform queries between different banking groups. In queries with the payment version "004" the account number of the payer is returned to the paying agent .

8.3 Data record descriptions for the Savings Bank query function service

The seller company builds its own query system. The internet address for Savings Bank online payment query function is

<https://verkkomaksu.saastopankki.fi/vm/kysely.html>

Savings Bank online payment service is available 24 hours a day.

8.3.1 Information provided by the seller

	Data	Input name INPUT NAME=	Example	Form	C/O	
1.	Payment version	NET_VERSION	"003"	N 3	C	
2.	Seller ID	NET_SELLER_ID	99999999999001	AN 13	C	
3.	Payment identification	NET_STAMP	Identifier of the original payment provided by the merchant	AN 13	O	C
4.	Reference identifying the queried payment	NET_REF	Reference of the original payment provided by the merchant	N 20	O	
5.	Return address	NET_RETURN	Address of the return link	AN160	C	
6.	Algorithm	NET_ALG	03 = SHA256	N 2	C	
7.	Payment verification	NET_MAC	Verification calculated by the party performing	AN 64	C	

			the query			
8.	Key version	NET_KEYVERS	Not in use			

8.3.1.1 Payment version

In a query for an online payment the version number is “003”.

When the seller company is a paying agent, they can use the version number “004” in the query they have built, enabling them to make queries between different banking groups, and the query will also return the payer's account number.

8.3.1.2 Seller ID

The ID has been marked in the online payment agreement form drawn up with the bank, under “Online payment/Service ID”. The total length of the ID is 13 characters. The ID is a single string of characters with no punctuation marks. For example, if the service identifier is 999999999 and the qualifier is 001, the seller’s ID is 9999999999001.

8.3.1.1 Payment ID

Identifier of the original payment provided by the merchant Either the payment identification or reference must be provided. If both are provided, they both have to match.

8.3.1.4 Reference identifying the queried payment

Reference of the original payment provided by the merchant Either the payment identification or reference must be provided. If both are provided, they both have to match.

8.3.1.5 Return address

Page following query.

Answer data is added after the return address. If the return address is e.g.

”https://ostos.kauppa.fi/cgi-bin/valmis”, the following address is formed:

”https://ostos.kauppa.fi/cgi-

bin/valmis?NET_VERSION=003&NET_SELLER_ID=0003516379000&NET_RESPCODE=OK&NET_STAMP=1525694059384&NET_REF=11235&NET_DATE=20180507&NET_AMOUNT=2,50&NET_CUR=EUR&NET_PAID=20180507457610I84358&NET_ALG=03&NET_RETURN_MAC=ADA0DEC4E59553D122FA560614840E35B225A22D52BA479B22BBFA7A486147AA”.

			or another error		
4.	Payment identification	NET_STAMP		AN 20	O
5.	Payment reference	NET_REF		N 20	O
6.	Payment date	NET_DATE	“yyyymmdd” format	N 10	O
7.	Payment amount	NET_AMOUNT	“12345,67”	AN 9	O
8.	Currency	NET_CUR	EUR	A 3	O
9.	Payment archiving ID	NET_PAID	Bank's archiving ID	AN 20	O
10.	Algorithm	NET_ALG	03 = SHA256	N 2	C
11.	Account number of the payer	NET_BUYER_ACC	FI9988887777666655 IBAN account number Will only be returned to payer agent with the version “004”	AN 18	O
12.	Query verification number	NET_RETURN_MAC	Verification calculated for the query answer	AN 64	C
13.	Key version	NET_KEYVERS	Not in use		O

1. Query version

In the version “003”, a query between different banking groups is not possible. In the version “004”, a query between different banking groups is possible for a paying agent.

2. Seller ID

A 13-character ID found in the agreement.

3. Return data

If the payment is accepted or cannot be found, or there is a mistake in the query data. If several payments can be found with the same key data, it will be returned as an error.

4. Payment identification

Payment identification, if the payment has been given one.

5. Payment reference

Payment reference, if the payment has been given one.

6. Payment date

Date of the payment transaction. Will be returned with only the answer “OK”.

7. Payment amount

The sum of the payment given to two decimal places. Will be returned with only the answer “OK”.

8. Currency

“EUR”. Will be returned with only the answer “OK”.

9. Payment archiving ID

Archiving ID given to the payment by the bank. Will be returned with only the answer “OK”.

10. Algorithm

The value “03” is used, which means that the SHA-256 algorithm is used for calculating the verification.

in the information NET_VERSION, which results in the payer's account number being returned to the paying agent (NET_BUYER_ACC). The information NET_BUYER_ACC is added to the character string used in MAC calculations. Queries between banks of different banking groups are only possible for paying agents.

9 Refund function for the Savings Bank online payment service

The refund function in the Savings Bank online payment is a system for corporate customers who use the Savings Bank online payment button at their online shop sites. The service allows companies to make refunds concerning transactions made using the Savings Bank online payment button. The main purpose of the system is to allow online shops to refund transactions that they need to refund to the customer for some reason. The returned amount does not need to match the original payment but cannot be higher than the original payment. Several refunds cannot be connected with a single transaction.

- Refund can be made up to 60 days after the original payment
- The amount of the refund can be a part of the payment, but not larger than the original payment.
- Refund can be made only once even though the refund would be smaller than the amount of the original payment.

9.1 Service agreement on the refund function

The seller company signs a written agreement on the use of the service with the bank. The account number and agreement of the trading venue have to be with the same banking group in order for the seller company to use the return function.

9.2 Data record descriptions for the Savings Bank online payment refund

The seller company builds its refund system. The address of the Savings Bank online payment refund function is

<https://verkkomaksu.saastopankki.fi/vm/palautus.html>.

The Savings Bank online payment service is available 24 hours a day.

9.3.1 Information provided by the seller

	Data	Input name INPUT NAME=	Example	Form	C/O
1.	Refund version	NET_VERSION	“003”	N3	C
2.	Seller ID	NET_SELLER_ID		AN13	C

3.	Refund payment identifier	NET_STAMP		AN20	C
4.	Refund payment reference	NET_REF		N20	C
5.	Refund payment amount	NET_AMOUNT	“12345,67”	AN9	C
6.	Currency	NET_CUR	“EUR”	A3	C
7.	Refund payment message	NET_MSG		AN210	O
8.	Original payment ID	NET_STAMP_ORG		N20	C
9.	Original payment reference	NET_REF_ORG		N20	C
10.	Address of the return link	NET_RETURN		AN160	C
11.	Algorithm	NET_ALG	03 = SHA256	N 2	C
12.	Payment verification	NET_MAC		AN 64	C
13.	Key version	NET_KEYVERS	Not in use		=

The SHA-256 algorithm is used in calculating the MAC verification of the refund response message.

Below you will find the data fields used in calculating the MAC verification of the refund response message:

SHA256 algorithm

The verification is calculated using the SHA256 algorithm. A character string is first formed of the data fields included in the calculation in the following order:

```

NET_VERSION&
NET_SELLER_ID&
NET_STAMP&
NET_REF&
NET_AMOUNT&
NET_CUR&
NET_STAMP_ORG&
NET_REF_ORG&
NET_RETURN&
NET_ALG&
Security verification&

```

The security verification consists of 64 characters. The security verification consists of two parts. The first part of the security verification is mailed to the address of the recipient of the first part of the key named in the customer’s agreement.

The second part is sent to the e-mail address of the recipient of the second part.

There must be no white space characters in the character string, and the “&” characters are included in the calculation. The resulting character string is used for calculating a

NET_STAMP&
NET_REF&
NET_PAID&
NET_ALG&
Security verification&

10 Online service customer support

For the customers of Savings Bank banks, tel. 100 4052 (EUR 1.17/min + local charge)

E-mail: info@samlink.fi