PosXML

vers 6.0.2.4

Interface description

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1. Introduction

1.1 Document purpose

The document provides a short description of XML-based electronic payment interface for U32POS with particular emphasis on general principles and data exchange protocol. The document contains basic information that should be helpful for software developers mainly (and also for end users).

1.2 Terms

PosXML   - POS XML module

PosXML Client - client program, that enables the use of POS on a PC

Client card   - a card used for client identification

Payment Card - electronic payment card

2. Conception

2.1 General

The most important feature of PosXML is the possibility to perform electronic payments via *direct Internet connection* instead of dial-up*.* PosXML Client is a sample program which takes advantage of XML based communication protocol over HTTP.

2.2 HTTP sessions

POS supports XML UTF-8 encoding.

PosXML Client initiates every operation (e.g. an electronic card payment) with a specific XML message and POS responds with corresponding response message (also XML). The Response message contains a result code of the operation (and may also contain other information). Typical steps of electronic card payment using PosXML are shown below.

If PosXML receives an unknown message or detects a wrong message version, it responds with message **Error**.

3. Protocol

3.1 Data types

Type	Explanation
C (character)	Text with limited max length. For example, C-20 stands for string with max length of 20 characters. Multibyte characters (UTF-8) are allowed.
N (numeric)	ASCII numeric text. For example, N-6 stands for numeric string with max length of 6 ASCII numbers.

3.2 Structures

Type	Explanation
Element	The most basic type, represents one datatype.
Aggregate	Consists of one or more data fields that are logically associated to form an entity that can be referenced by specific name.
Message	The most complex data formation. Represents either request or response. Client issues a request and server send response within the same HTTP session.
Document	Root element (according to XML specificationi). Incorporates all the information specified by the protocol. Must contain protocol version number.

3.3 Message data fields (Element)

Field name	Field type and max lenght	Explanation
ReturnCode	N-6	Result code of the operation
Reason	C-256	Detailed description of payment result
ReasonCode	C-3	Host answer code
Amount	N-12	Amount of payment in cents
AdditionalAmount	N-12	Additional info for the payment (a tip or another adjustment) in cents. (Can be a negative number). The transaction total is Amount + AdditionalAmount.
CurrencyName	C-3	Currency name
SecAmount	N-12	Amount in second currency
SecAdditionalAmount	N-12	Additional amount in second currency
SecCurrencyName	C-3	Secondary urrency name
Pan	C-20	Client card number
Expires	C-5	Client card expiration date
ServiceCode	N-3	Service code for the client card
CryptedPan	C-32	3DES crypted PAN
CryptedExpires	C-32	3DES crypted Expires
SignatureRequired	N-1	Signature required flag
PINVerified	N-1	PIN verified flag
DateTime	N-12	Payment time
DateTimeRev	N-12	Reversed transaction date and time
Stan	N-6	STAN of the payment
StanRev	N-6	Reversed transaction STAN
CardAction	C-1	How the payment was done
AuthorizationNo	C-6	Authorization number
PhysicalType	N-1	Terminal type

Type	C-2	Payment type
CardName	C-40	Card name
ID	C-8	Terminal ID
SerNo	C-16	Terminal serial number
Name	C-40	Terminal name
Address	C-40	Terminal address
MerchantRegNo	C-8	Merchant registration number
PayDesk	C-3	Paydesk
VerificationResult	C-14	Terminal verification result (TVR) . EMV data
ApplicationCryptogram	C-20	Terminal cryptogram (TC). EMV data
AL	C-32	Application label. EMV data
AID	C-32	Application identifier. EMV data
CID	C-2	Cryptogram information data. EMV data
TSI	C-4	Transaction status information. EMV data
CVMR	C-6	Cardholder verification method results. EMV data
IAD	C-128	Issuer application data. EMV data
UPN	C-8	Unpredictable number. EMV data
ATC	C-4	Application transaction counter. EMV data
AIP	C-4	Application interchange profile. EMV data
TT	C-1	Transaction type. EMV data
Timeout	N-3	Card waiting time in seconds
Language	C-2	Language code for display ('en', 'ru', 'et', etc). May be overwritten by chip card language
PrinterStatus	C-1	Terminal printer status
Time	C-19	Terminal current date/time „31.01.2009 15:31:00"
CardStatus	N-1	Card present status 1 – present in reader 0 – not present in reader 2 – unknown (some error)
AdditionalInfo	C-256	Arbitrary text
TransactionID	C-16	Unique transaction ID (issued by accounting system)
TransactionSTAN	N-6	Transaction STAN
FinishAmount	N-12	Final transaction amount
ReverseAmount	N-12	Reverse transaction amount
AttendantID	C-8	Unique attendant ID (issued by accounting system)
PrintReceipt	N-1	0 – merchant receipt, 1 – merchant and customer receipts (default), 2 – none.
ReturnReceipts	N-2	24-64 - return receipt strings. Line length 24-64 characters. Default – none.
ReceiptMessage	C-128	Text to print to receipt
PreAuthorisation	N-1	1 – preauthorisation, 0 – no presuthorisation (default). (POS ignores this field, if it's type is not RENT)
LastFourDigits	N-4	Last four digist from magnetic card cover
Manual	N-1	Manual PAN transaction request
PartialAuthorization	N-1	Partial authorization enabled/disabled
DiscountEnabled	N-1	Discount request enabled/disabled
PartialReversal	N-1	Partial reversal enabled/disabled

CardPresent	N-1	Used in conjuction with „Manual" tag
		0 – card not present, 1 – card present.
CardholderPresent	N-1	Used in conjuction with „Manual" tag
		0 – cardholder present, 1 – cardholder present, 2 – cardholder has sent mail or fax, 3 – cardholder on phone, 4 – cardholder permanent order.
DiscountPercent	N-2	Discount percent
DiscountID	N-12	Discount identificator
MerchReceipt	C-4096	Merchant receipt string
CustReceipt	C-4096	Customer receipt string
Copy	C-1	Add to receipt „COPY"
Surname	C-28	Surname
FirstName	C-15	Forname
MiddleName	C-15	Other Fornames
Gender	C-1	Gender
IDCode	C-11	ID code
CardNumber	C-8	Card number
ValidFrom	C-10	The beginning date of validity
ValidTo	C-10	The ending date of validity
Citizenship	C-3	Citizenship
PlaceOfBirth	C-35	Place of birth
DateOfBirth	C-10	Date of birth
ResidencePermitType	C-50	Residence permit type
Comment1	C-50	Comment nr 1
Comment2	C-50	Comment nr 2
Comment3	C-50	Comment nr 3
Comment4	C-50	Comment nr 4
VerifyPIN	N-1	1 – verify ID card PIN, 0 not present – do not verify ID card PIN.
DisplayLanguage	C-2	Default language code for display
PrinterLanguage	C-2	Default language code for printer
LineFeedCount	N-2	Line feed count
WaitTaken	N-3	Wait receipt taken in seconds
FormFeed	N-1	1 - eject receipt, 0 or element not present – don't eject
		Default - 0
Line	C-2000	Symbols, that POS has to print. The field may contain a line feed symbol LF (0AH).
Line1..24	C-2000	Symbols, that POS has to print. The field may contain a line feed symbol LF (0AH).
AddLines	C-2	Additional number of lines to be printed. The same amount of Line1..N fields must exist.
Count	N-2	The number of empty rows, that POS has to print.
ImageFileName	C-11	Print image file loaded to terminal
Yes	C-12	Afformitive answer text
No	C-12	Negative answer text
Timeout	N-2	Wait answer in seconds
Info	C-16	Numeric string entered by customer
Action	N-1	0 – clear all previously sent DisplayMessageRequest parameters

		1 – use parameters LineX
		2 – use parameters MessageXID
Message1ID	N-4	Terminal inner message ID to display on row 1
Message2ID	N-4	Terminal inner message ID to display on row 2
Message3ID	N-4	Terminal inner message ID to display on row 3
Message4ID	N-4	Terminal inner message ID to display on row 4
Line1	C-24	String to display on row 1
Line2	C-24	String to display on row 2
Line3	C-24	String to display on row 3
Line4	C-24	String to display on row 4
AnswerType	N-3	0-2 - predefined Yes/No strings in terminal. If „Yes" or „No" present in request, then predefined strings are not used. 101-124 – numeric input required (length = AnswerType – 100). Answer is returned in Info tag.
FileNumber	N-8	The number of the transaction file
FileTransactionCount	N-3	Number of transactions
FileTotalAmount	N-12	Total of transactions
FileDateTime	C-10	Date of the file creation
FileSendStatus	N-1	Status of sending transaction files (1-success, 0-fail)
PendingCount	N-3	The total on unsent transaction files
SendTime	C-10	The date of sending the transaction file
ReceiptData	C-2048	Transaction send (current) receipt
FileData	C-64000	The last sent transactions from the transaction file. Every transaction has it's own row, with data divided with TABs. Sums are in cents. An example below shows two successful transactions. One transaction + cancelling and one failed transaction: **File** – the number of the transaction file, **Set** – the number of the transaction file set, **ID** – transaction identificator (TransactionID), **PAN** – card PAN, **Name** – Card name in POS, **Exp** – card expiration date (YYMM), **Datetime** – transaction date and time (YYMMDDHHMMSS), **STAN** – unique transaction number, **F38** – bank authorisation code, **F39** – bank transaction response code (ooo – successful transaction), **Amount** – sum in cents (minus – cancelling, sum in parentheses, why the transaction was terminated).

```
File    Set     ID       PAN            Name      Exp  Datetime      STAN   F38    F39  Amount
000004 000007 00000001 ************0014 ECMC CARD **** 050112183348 000020 322915 000  1000
000004 000007 00000002 ************0014 ECMC CARD **** 050112183417 000021 322916 000   900
000004 000008 00000003 ************6731 VISA CARD **** 050112183442 000022 266953 000   800
000004 000008 00000003 ************6731 VISA CARD **** 050112183833 000025 266953 000  -800
000004 000008 00000004 ************2986 VISA CARD **** 050112183529 000023        100  (700)
```

3.4 Aggregates

3.4.1 Card

Tag	Type	Usage	Explanation
Pan	Element	Required	Card number
CardName	Element	Required	Card name if present
Expires	Element	Required	Card expiration date
ServiceCode	Element	Required	Card service code
CardID	Element	Optional	Card unic hash
ECRType	Element	Optional	If card was in ECRPAN list, then ECRType from this list
ECRPanID	Element	Optional	If card was in ECRPAN list, then ECRPanID from this list

3.4.2 IDCard

Tag	Type	Usage	Explanation
Surname	Element	Required	Surname
FirstName	Element	Required	Forname
MiddleName	Element	Required	Other fornames
Gender	Element	Required	Gender
IDCode	Element	Required	ID code
CardNumber	Element	Required	Card number
ValidFrom	Element	Required	Card validity start date
ValidTo	Element	Required	Card expiration date
Citizenship	Element	Required	Citizenship
PlaceOfBirth	Element	Required	Place of birth
DateOfBirth	Element	Required	Date of birth
ResidencePermitType	Element	Required	Resindence permit type
Comment1	Element	Required	Comment nr 1
Comment2	Element	Required	Comment nr 2
Comment3	Element	Required	Comment nr 3
Comment4	Element	Required	Comment nr 4

3.4.3 TransactionData

Tag	Type	Usage	Explanation
TransactionID	Element	Required	Unique transaction ID (issued by accounting system)
Amount	Element	Required	Amount of payment
AdditionalAmount	Element	Required	Specification of the transaction
CurrencyName	Element	Required	Currency name ('EEK')
Datetime	Element	Required	Payment moment
DatetimeRev	Element	Optional	Reversal moment
Stan	Element	Required	Transaction STAN
StanRev	Element	Optional	Reversal STAN
Type	Element	Required	Transaction type
CardAction	Element	Required	Source of card data (chip or magnetic strip)

AuthorizationNo	Element	Required	Authorization number
HostAnswer	Element	Optional	Answer from host
SecAmount	Element	Required	Amount of payment in second currency
SecAdditionalAmount	Element	Optional	Specification of the transaction in second currency
SecCurrencyName	Element	Optional	Second currency name ('EUR')
SignatureRequired	Element	Required	Signature in receipt
PINVerified	Element	Required	PIN verified or not

3.4.4 CardData

Tag	Type	Usage	Explanation
PhysicalType	Element	Required	Card type
CardName	Element	Required	Card name
Pan	Element	Required	Last 4 numbers of card PAN
Expires	Element	Required	Card expiration date (**/** for compatibility with older PosXML versions)
ServiceCode	Element	Required	Card service code
AL	Element	Optional	Application label
AID	Element	Optional	Application ID
CryptedPan	Element	Optional	

3.4.5 TerminalData

Tag	Type	Usage	Explanation
ID	Element	Required	Terminal ID
SerNo	Element	Required	Terminal serial number
Name	Element	Required	Terminal name
Address	Element	Required	Terminal address
MerchantRegNo	Element	Required	Merchant registration number
PayDesk	Element	Required	Paydesk number
VerificationResult	Element	Optional	Card verification data (TVR). EMV data
ApplicationCryptogram	Element	Optional	Application cryptogram (AC) . EMV data
CID	Element	Optional	EMV data
TSI	Element	Optional	EMV data
CVMR	Element	Optional	EMV data
IAD	Element	Optional	EMV data
UPN	Element	Optional	EMV data
ATC	Element	Optional	EMV data
AIP	Element	Optional	EMV data
TT	Element	Optional	EMV data
PrinterStatus	Element	Optional	Printer paper status

3.5 Requests

3.5.1 CancelAllOperationsRequest – CancelAllOperationsResponse

CancelAllOperationsRequest

Tag	Type	Usage	Explanation
No parameters			

CancelAllOperationsResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Result code of the operation

3.5.2 TransactionRequest - TransactionResponse

TransactionRequest

Tag	Type	Usage	Explanation
Amount	Element	Required	Amount of payment in cents
CurrencyName	Element	Required	Currency name ('EEK')
TransactionID	Element	Optional	Transaction unique ID. Default – empty.
AttendantID	Element	Optional	Attendant unic ID. Default – empty.
PrintReceipt	Element	Optional	0 – merchant receipt, 1 – merchant and customer receipts, 2 – none; Default – 1.
ReturnReceipts	Element	Optional	24-64 - return receipt strings. Line length 24-64 characters Default – none.
PreAuthorisation	Element	Optional	1 – preauthorisation, 0 – no preauthorisation. Default – 0. POS ignores this field, if it's type is not RENT.
PartialAuthorization	Element	Optional	1 – partial authorization enabled, 0 – partial authorization disabled. Default – 0.
DiscountEnabled	Element	Optional	1 – Discount request to PosXML Client enabled, 0 – Discount request disabled. Default – 0.
LastFourDigits	Element	Optional	Last four digits from card. Default – empty. If customer card is mag. stripe card and tag is not empty then terminal bypasses manual entering last four digits.
Timeout	Element	Optional	Card waiting time in seconds. If 0 – wait forever
Language	Element	Optional	Language code for display ('en', 'ru', 'et', etc). May be overwritten by chip card language
Manual	Element	Optional	Start manual PAN transaction.
CardPresent	Element	Optional	0 – card not present, 1 – card present. Used in conjuction with „Manual" tag

CardholderPresent	Element	Optional	0 – cardholder present, 1 – cardholder present, 2 – cardholder has sent mail or fax, 3 – cardholder on phone, 4 – cardholder permanent order. Used in conjuction with „Manual" tag

Optional intermediate requests from terminal

3.5.2.1 ClientCardRequest – ClientCardResponse

ClientCardRequest

Tag	Type	Usage	Explanation
Pan	Element	Optional	Client card PAN (BIN)
CardID	Element	Optional	Card unic hash
Expires	Element	Optional	Client card expiration date
ServiceCode	Element	Optional	Client card service code
Surname	Element	Optional	Surname
IDCode	Element	Optional	ID code
CardNumber	Element	Optional	Card number
ValidFrom	Element	Optional	Card validity start date
ValidTo	Element	Optional	Card expiration date

ClientCardResponse

Tag	Type	Usage	Explanation
Action	Element	Required	Action to do. 1 – asc PIN code; 0 – continue transaction (with new amount). If PIN code required then terminal ends transaction with ClientCardPINResponse.
Amount	Element	Required if Action=0	New amount for transaction (if Action = 0)
CurrencyName	Element	Required	Currency name ('EEK')
Language	Element	Required if Action=1	Language code for display ('en', 'ru', 'et', etc)
AnswerType	Element	Required if Action=1	101-124 (PIN length = AnswerType – 100). PIN input is done in Line3.
Line1	Element	Required if Action=1	String to display on line 1
Line2	Element	Required if Action=1	String to display on line 2
Line3	Element	Required if Action=1	String to display on line 3
Timeout	Element	Optional	Answer waiting time in seconds

ClientCardPINResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	0 – success

Input	Element	Optional	Entered PIN in plain text

3.5.2.2 DiscountTransactionRequest – DiscountTransactionResponse

DiscountTransactionRequest

Tag	Type	Usage	Explanation
Amount	Element	Required	Current amount
CurrencyName	Element	Required	Currency name ('EEK')
DiscountPercent	Element	Required	Percent for discounting found in terminal
DiscountID	Element	Optional	ID for discounting found in terminal
Pan	Element	Optional	Card PAN
CardID	Element	Optional	Card unic hash
IDCode	Element	Optional	ID card code

DiscountTransactionResponse

Tag	Type	Usage	Explanation
Amount	Element	Required	Current amount
CurrencyName	Element	Required	Currency name ('EEK')
ReceiptMessage	Element	Optional	Text to print to receipt

3.5.2.3 VoiceTransactionRequest – VoiceTransactionResponse

VoiceTransactionRequest

Tag	Type	Usage	Explanation
Reason	Element	Required	Reason for voice transaction
ReasonCode	Element	Optional	Answer code from host
TransactionData	Aggregate	Required	Transaction details
CardData	Aggregate	Required	Data from card that was used for the payment
TerminalData	Aggregate	Required	Data from terminal that was used for the payment
AdditionalInfo	Element	Optional	Arbitrary text

VoiceTransactionResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	
AuthorizationNo	Element	Optional	

3.5.2.4 FallbackTransactionRequest – FallbackTransactionResponse

FallbackTransactionRequest

Tag	Type	Usage	Explanation
Reason	Element	Required	Reason for fallback
ReasonCode	Element	Required	

FallbackTransactionResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	
LastFourDigits	Element	Optional	Last four digits from mag. card

TransactionResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code
Reason	Element	requires	Error description
TransactionData	Aggregate	Required	Transaction details
CardData	Aggregate	Required	Data from card that was used for the payment
TerminalData	Aggregate	Required	Data from terminal that was used for the payment
AdditionalInfo	Element	Optional	Arbitrary text
MerchReceipt	Element	Optional	Merchant receipt string
CustReceipt	Element	Optional	Customer receipt string

3.5.3 TransactionMagStripeRequest - TransactionMagStripeResponse

TransactionMagStripeRequest

Tag	Type	Usage	Explanation
Pan	Element	Required	Card PAN
Expires	Element	Required	Card expiration date. Format - „YYMM".
ServiceCode	Element	Optional	Service code from track2. Default value „101".
Amount	Element	Required	Amount of payment in cents
CurrencyName	Element	Required	Currency name ('EEK')
TransactionID	Element	Optional	Transaction unique ID. Default – empty.
PreAuthorisation	Element	Optional	1 – preauthorisation, 0 – no preauthorisation. Default – 0. POS ignores this field, if it's type is not RENT.
AttendantID	Element	Optional	Attendant unic ID. Default – empty.
PrintReceipt	Element	Optional	0 – merchant receipt, 1 – merchant and customer receipts (default), 2 – none, Default – 1.
ReturnReceipts	Element	Optional	24-64 - return receipt strings. Line length 24-64 characters. Default – none.
CardPresent	Element	Optional	0 – card not present, 1 – card present. If tag not present, terminal asks this from merchant.
CardholderPresent	Element	Optional	0 – cardholder present, 1 – cardholder present, 2 – cardholder has sent mail or fax, 3 – cardholder on phone, 4 – cardholder permanent order. If tag not present, terminal asks this from merchant.

Optional intermediate requests from terminal

3.5.3.1 ClientCardRequest – ClientCardResponse

ClientCardRequest

Tag	Type	Usage	Explanation
Pan	Element	Required	Client card PAN (BIN)
Expires	Element	Optional	Client card expiration date
ServiceCode	Element	Optional	Client card service code

ClientCardResponse

Tag	Type	Usage	Explanation
Action	Element	Required	Action to do. 1 – asc PIN code; 0 – continue transaction (with new amount). If PIN code required then terminal ends transaction with ClientCardPINResponse.
Amount	Element	Required if Action=0	New amount for transaction (if Action = 0)
CurrencyName	Element	Required	Currency name ('EEK')
Language	Element	Required if Action=1	Language code for display ('en', 'ru', 'et', etc)
AnswerType	Element	Required if Action=1	101-124 (PIN length = AnswerType – 100). PIN input is done in Line3.
Line1	Element	Required if Action=1	String to display line 1
Line2	Element	Required if Action=1	String to display line 2
Line3	Element	Required if Action=1	String to display line 3
Timeout	Element	Optional	Answer waiting time in seconds

ClientCardPINResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	0 – success
Input	Element	Optional	Entered PIN in plain text

3.5.3.2 DiscountTransactionRequest – DiscountTransactionResponse

DiscountTransactionRequest

Tag	Type	Usage	Explanation
Amount	Element	Required	Current amount
CurrencyName	Element	Required	Currency name ('EEK')
DiscountPercent	Element	Required	Percent for discounting found in terminal
DiscountID	Element	Optional	ID for discounting found in terminal
Pan	Element	Optional	Card PAN
IDCode	Element	Optional	ID card code

DiscountTransactionResponse

Tag	Type	Usage	Explanation
Amount	Element	Required	Current amount
CurrencyName	Element	Required	Currency name ('EEK')
ReceiptMessage	Element	Optional	Text to print to receipt

3.5.3.3 VoiceTransactionRequest – VoiceTransactionResponse

VoiceTransactionRequest

Tag	Type	Usage	Explanation
Reason	Element	Required	Reason for voice transaction
ReasonCode	Element	Optional	Answer code from host

TransactionData	Aggregate	Required	
CardData	Aggregate	Required	
TerminalData	Aggregate	Required	
AdditionalInfo	Element	Optional	

VoiceTransactionResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	
AuthorizationNo	Element	Optional	

TransactionMagStripeResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code
Reason	Element	requires	Error description
TransactionData	Aggregate	Required	Transaction details
CardData	Aggregate	Required	Data from card that was used for the payment
TerminalData	Aggregate	Required	Data from terminal that was used for the payment
AdditionalInfo	Element	Optional	Arbitrary text
MerchReceipt	Element	Optional	Merchant receipt string
CustReceipt	Element	Optional	Customer receipt string

3.5.4 FinishTransactionRequest - TransactionResponse

FinishTransactionRequest

Tag	Type	Usage	Explanation
TransactionID	Element	Optional	Transaction ID (has to be one of two elements)
TransactionSTAN	Element	Optional	Transaction STAN (has to be one of two elements)
FinishAmount Amount TIPAmount	Element	Optional	Transaction final amount
CurrencyName	Element	Required	Currency name ('EEK')
PrintReceipt	Element	Optional	0 – merchant receipt, 1 – merchant and customer receipts, 2 – none; Default – 1.
ReturnReceipts	Element	Optional	24-64 - return receipt strings. Line length 24-64 characters Default – none.

TransactionResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code
TransactionData	Aggregate	Required	Transaction data
CardData	Aggregate	Required	Card data used for making the transaction
TerminalData	Aggregate	Required	Terminal data used for making the transaction
AdditionalInfo	Element	Optional	Additional info
Reason	Element	requires	Error description
MerchReceipt	Element	Optional	Merchant receipt string
CustReceipt	Element	Optional	Customer receipt string

3.5.5 ReverseTransactionRequest – ReverseTransactionResponse

ReverseTransactionRequest

Tag	Type	Usage	Explanation
TransactionID	Element	Optional	Transaction ID (has to be one of two elements)
TransactionSTAN	Element	Optional	Transaction STAN (has to be one of two elements)
ReverseAmount Amount	Element	Optional	Transaction amount
CurrencyName	Element	Required	Currency name ('EEK')
PartialReversal	Element	Optional	1 – partial reversal enabled, 0 – partial reversal disabled. Default – 0.
LastFourDigits	Element	Optional	Last four digits from mag. card
ForcedAction	Element	Optional	If 1 – do it without card reading
PrintReceipt	Element	Optional	0 – merchant receipt, 1 – merchant and customer receipts, 2 – none; Default – 1.
ReturnReceipts	Element	Optional	24-64 - return receipt strings. Line length 24-64 characters Default – none.

ReverseTransactionResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code
TransactionData	Aggregate	Required	Transaction data
CardData	Aggregate	Required	Card data used for making the transaction
TerminalData	Aggregate	Required	Terminal data used for making the transaction
AdditionalInfo	Element	Optional	Additional info
Reason	Element	requires	Error description
MerchReceipt	Element	Optional	Merchant receipt string
CustReceipt	Element	Optional	Customer receipt string

3.5.6 RefundTransactionRequest – RefundTransactionResponse

RefundTransactionRequest

Tag	Type	Usage	Explanation
TransactionID	Element	Optional	Transaction ID (has to be one of two elements)
TransactionSTAN	Element	Optional	Transaction STAN (has to be one of two elements)
PrintReceipt	Element	Optional	0 – merchant receipt, 1 – merchant and customer receipts, 2 – none; Default – 1.
ReturnReceipts	Element	Optional	24-64 - return receipt strings. Line length 24-64 characters Default – none.

RefundTransactionResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code
TransactionData	Aggregate	Required	Transaction data
CardData	Aggregate	Required	Card data used for making the transaction
TerminalData	Aggregate	Required	Terminal data used for making the transaction
AdditionalInfo	Element	Optional	Additional info
Reason	Element	requires	Error description
MerchReceipt	Element	Optional	Merchant receipt string
CustReceipt	Element	Optional	Customer receipt string

3.5.7 ReadCardRequest - ReadCardResponse

ReadCardRequest

Tag	Type	Usage	Explanation
Timeout	Element	Optional	Card waiting time in seconds, if 0 then wait forever
Language	Element	Optional	Language code for display ('en', 'ru', 'et', etc).
Amount	Element	Optional	If present and > 0 terminal waits payment card
CurrencyName	Element	Optional	Currency name ('EEK')

ReadCardResponse

Tag	Type	Usage	Explanation
Card	Aggregate	Required	Client card data

ReturnCode	Element	Required	Return code for operation

3.5.8 ReadIDCardRequest - IDCardResponse

ReadIDCardRequest

Tag	Type	Usage	Explanation
Timeout	Element	Optional	Card waiting time in seconds
Language	Element	Optional	Language code for display ('en', 'ru', 'et', etc).
VerifyPIN	Element	Optional	1 – verify ID card PIN, 0 or not present – do not verify ID card PIN.

IDCardResponse

Tag	Type	Usage	Explanation
IDCard	Aggregate	Required	ID card data
ReturnCode	Element	Required	Operation result code

3.5.9 GetLastTransactionDataRequest – GetLastTransactionDataResponse

GetLastTransactionDataRequest

Tag	Type	Usage	Explanation
TransactionID	Element	Optional	Transaction ID (has to be one of two elements)
TransactionSTAN	Element	Optional	Transaction STAN (has to be one of two elements)
Copy	Element	Optional	Print „COPY" on receipt
ReturnReceipts	Element	Optional	24-64 - return receipt strings. Line length 24-64 characters. Default – none.

GetLastTransactionDataResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code
Reason	Element	Required	Error message
TransactionData	Aggregate	Required	Transaction details
CardData	Aggregate	Required	Card data
TerminalData	Aggregate	Required	Terminal data
AdditionalInfo	Aggregate	Required	Arbitrary text

3.5.10 TransactionSendRequest – TransactionSendResponse

TransactionSendRequest

Tag	Type	Usage	Explanation
No parameters			

TransactionSendResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code
FileNumber	Element	Required	Transaction file number
FileTransactionCount	Element	Required	The number of transactions in the transaction file
FileTotalAmount	Element	Required	The total of transactions in the transaction file
FileDateTime	Element	Required	Date and time of the transaction file
FileSendStatus	Element	Required	Status of sending the transaction file

PendingCount	Element	Required	Number of unsent transactions
SendTime	Element	Required	Transaction sending time
FileData	Element	Optional	Last sent transactions from the transaction file.
ReceiptData	Element	Optional	Current (not sent jet) transactions receipt.

3.5.11 TransactionSendStatusRequest – TransactionSendStatusResponse

TransactionSendStatusRequest

Tag	Type	Usage	Explanation
No parameters			

TransactionSendStatusResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code
FileNumber	Element	Required	Transaction file number
FileTransactionCount	Element	Required	The number of transactions in the transaction file
FileTotalAmount	Element	Required	The total of transactions in the transaction file
FileDateTime	Element	Required	Date and time of the transaction file
FileSendStatus	Element	Required	Status of sending the transaction file
PendingCount	Element	Required	Number of unsent transactions
SendTime	Element	Required	Transaction sending time
FileData	Element	Optional	Last sent transactions from the transaction file.
ReceiptData	Element	Optional	Current (not sent jet) transactions receipt.

3.5.12 TransactionCurrStatusRequest – TransactionCurrStatusResponse

TransactionCurrStatusRequest

Tag	Type	Usage	Explanation
No parameters			

TransactionCurrStatusResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code
FileNumber	Element	Required	Transaction file number
FileTransactionCount	Element	Required	The number of transactions in the transaction file
FileTotalAmount	Element	Required	The total of transactions in the transaction file
FileDateTime	Element	Required	Date and time of the transaction file
FileSendStatus	Element	Required	Status of sending the transaction file
PendingCount	Element	Required	Number of unsent transactions
SendTime	Element	Required	Transaction sending time
FileData	Element	Optional	Current (not sent jet) transactions in terminal file.
ReceiptData	Element	Optional	Current (not sent jet) transactions receipt.

3.5.13 PrintImageFileRequest – PrintImageFileResponse

PrintImageFileRequest

Tag	Type	Usage	Explanation
ImageFileName	Element	Required	Preloaded image file name in terminal.

PrintImageFileResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Result code of the operation
PrinterStatus	Element	Optional	Printer paper status
AdditionalInfo	Element	Optional	Error explanation

3.5.14 PrintLineRequest – PrintLineResponse

PrintLineRequest

Tag	Type	Usage	Explanation
Line	Element	Required	Symbols to be printed by POS. Maximum number of symbols in one message is 2000 bytes. The message may contain a line feed symbol LF (0AH).
Language	Element	Optional	Print language ('en', 'ru', 'et', etc)
AddLines	Element	Optional	Number of additional rows for printing. The number of Line1..24 fields has to be equal to that.
Line1..24	Element	Optional	Symbols POS has to print. Maximum number of symbols in one message is 2000 bytes. The message may contain a line feed symbol LF (0AH).
LineFeedCount	Element	Optional	Linefeeds at the end of printing
FormFeed	Element	Required	1 - eject receipt, 0 or element not present – don't eject Default - 0
WaitTaken	Element	Required	Max wait taken time in seconds

PrintLineResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Result code of the operation
PrinterStatus	Element	Optional	Printer paper status
AdditionalInfo	Element	Optional	Error explanation

3.5.15 PrintCustomerReceiptRequest – PrintCustomerReceiptResponse

PrintCustomerReceiptRequest

Tag	Type	Usage	Explanation
TransactionID	Element	Optional	Transaction ID (has to be one of two elements)
TransactionSTAN	Element	Optional	Transaction STAN (has to be one of two elements)
Copy	Element	Optional	Print „COPY" on receipt
PrintReceipt	Element	Optional	0 – merchant receipt, 1 – merchant and customer receipts, 2 – none; Default – 1.
ReturnReceipts	Element	Optional	24-64 - return receipt strings. Line length 24-64 characters Default – none.

PrintCustomerReceiptResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Result code of the operation
PrinterStatus	Element	Optional	Printer paper status
CustReceipt	Element	Optional	Customer receipt string
AdditionalInfo	Element	Optional	Error explanation

3.5.16 PrintMerchantReceiptRequest – PrintMerchantReceiptResponse

PrintMerchantReceiptRequest

Tag	Type	Usage	Explanation
TransactionID	Element	Optional	Transaction ID (has to be one of two elements)
TransactionSTAN	Element	Optional	Transaction STAN (has to be one of two elements)
Copy	Element	Optional	Print „COPY" on receipt
PrintReceipt	Element	Optional	0 – merchant receipt, 1 – merchant and customer receipts, 2 – none; Default – 1.
ReturnReceipts	Element	Optional	24-64 - return receipt strings. Line length 24-64 characters. Default – none.

PrintMerchantReceiptResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code
PrinterStatus	Element	Optional	Printer paper status
MerchReceipt	Element	Optional	Merchant receipt string
AdditionalInfo	Element	Optional	Error explanation

3.5.17 PrintLineFeedRequest - PrintLineFeedResponse

PrintLineFeedRequest

Tag	Type	Usage	Explanation
Count	Element	Required	Number of rows

PrintLineFeedResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code
PrinterStatus	Element	Optional	Printer paper status
AdditionalInfo	Element	Optional	Error explanation

PrintFormFeedRequest

Tag	Type	Usage	Explanation
WaitTaken	Element	Required	Max wait taken time in seconds

PrintFormFeedResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code
PrinterStatus	Element	Optional	Printer paper status
AdditionalInfo	Element	Optional	Error explanation

3.5.18 ChangeLanguageRequest – ChangeLanguageResponse

ChangeLanguageRequest

Tag	Type	Usage	Explanation
DisplayLanguage	Element	Required	Language code for display ('en', 'ru', 'et', etc)
PrinterLanguage	Element	Required	Language code for printer ('en', 'ru', 'et', etc)

ChangeLanguageResponse

Tag	Type	Usage	Explanation

ReturnCode	Element	Required	Operation result code

3.5.19 DisplayMessageRequest – DisplayMessageResponse

DisplayMessageRequest

Tag	Type	Usage	Explanation
Language	Element	Optional	Language code for display ('en', 'ru', 'et', etc)
Action	Element	Required	0 – clear all previously sent DisplayMessageRequest parameters 1 – use parameters LineX 2 – use parameters MessageXID
Line1	Element	Optional	String to display line 1
Line2	Element	Optional	String to display line 2
Line3	Element	Optional	String to display line 3
Line4	Element	Optional	String to display line 4
Message1ID	Element	Optional	String ID in terminal application to display line 1
Message2ID	Element	Optional	String ID in terminal application to display line 2
Message3ID	Element	Optional	String ID in terminal application to display line 3
Message4ID	Element	Optional	String ID in terminal application to display line 4
BackLight	Element	Optional	0 – turns backlight off, 1 - turns backlight on

DisplayMessageResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code

3.5.20 ShowInfoRequest – ShowInfoResponse

ShowInfoRequest

Tag	Type	Usage	Explanation
Language	Element	Optional	Language code for display ('en', 'ru', 'et', etc)
AnswerType	Element	Required	0-2 - predefined Yes/No strings in terminal. If „Yes" or „No" present in request, then predefined strings are not used. 101-124 – numeric input required (length = AnswerType – 100). Only Line1 and Line2 are displayed and input is done in Line3.
Line1	Element	Optional	String to display line 1
Line2	Element	Optional	String to display line 2
Line3	Element	Optional	String to display line 3
Yes	Element	Optional	String to display affirmative answer
No	Element	Optional	String to display refusal answer
Timeout	Element	Optional	Answer waiting time in seconds
Password	Element	Optional	Masked input (*)

ShowInfoResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code
Info	Element	Optional	Numeric input if required

3.5.21 GetTerminalStatusRequest – GetTerminalStatusResponse

GetTerminalStatusRequest

Tag	Type	Usage	Explanation
No parameters			

GetTerminalStatusResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code
CardStatus	Element	Required	Card present status 1 – present in reader 0 – not present in reader 2 – unknown (some error)
PrinterStatus	Element	Optional	Printer paper status
TransactionsCount	Element	Required	The number of transactions in the terminal
NotFinishedTransactionsCount	Element	Required	The number of not finished (preauthorised) transactions in the terminal
NextSTAN	Element	Required	Next transaction unic number for host
ReversalActive	Element	Required	Autoreversal state
DisplayLanguage	Element	Optional	Default language code for display
PrinterLanguage	Element	Optional	Default language code for printer
Time	Element	Required	Terminal current date/time „31.01.2009 15:31:00"

3.5.22 SetParametersRequest – SetParametersResponse

SetParametersRequest

Tag	Type	Usage	Explanation
ShowLogo	Element	Optional	
ShowText1	Element	Required	
ShowText2	Element	Optional	
ShowText3	Element	Optional	
MerchantInputTimeout	Element	Optional	
WaitCardTimeout	Element	Optional	
PINInputTimeout	Element	Optional	
CustomerInputTimeout	Element	Optional	
MagNotUsed	Element	Optional	
DUKPTInitialized	Element	Optional	
EMVDUKPTUsed	Element	Optional	
EMVOnlinePINOnly	Element	Optional	
CDASupported	Element	Optional	
StartMNT	Element	Optional	
SendSerialNums	Element	Optional	
PinpadEmulation	Element	Optional	
UnattEmulation	Element	Optional	

DEProtVer	Element	Optional	
CustomPrint	Element	Optional	
MinCustomerAmount	Element	Optional	
Logging	Element	Optional	
PrinterHeader	Element	Optional	
PrinterFooter	Element	Optional	
Restart	Element	Optional	If present restarts terminal

SetParametersResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code

3.5.23 GetParametersRequest – GetParametersResponse

GetParametersRequest

Tag	Type	Usage	Explanation
No parameters			

GetParametersResponse

Tag	Type	Usage	Explanation
ShowLogo	Element	Optional	
ShowText1	Element	Required	
ShowText2	Element	Optional	
ShowText3	Element	Optional	
MerchantInputTimeout	Element	Optional	
CustomerInputTimeout	Element	Optional	
WaitCardTimeout	Element	Optional	
PINInputTimeout	Element	Optional	
DUKPTInitialized	Element	Optional	
EMVDUKPTUsed	Element	Optional	
MagNotUsed	Element	Optional	
EMVOnlinePINOnly	Element	Optional	
CDASupported	Element	Optional	
PinpadEmulation	Element	Optional	
UnattEmulation	Element	Optional	
DEProtVer	Element	Optional	
CustomPrint	Element	Optional	
MinCustomerAmount	Element	Optional	
TerminalOwnerCountry	Element	Optional	
TerminalID	Element	Optional	
MerchantID	Element	Optional	
MerchantRegNo	Element	Optional	

PayDesk	Element	Optional	
CardAcceptorID	Element	Optional	
TerminalIndex	Element	Optional	
TerminalVersion	Element	Optional	
CountryCodeStr	Element	Optional	
CurrencyExpChar	Element	Optional	
AcquiringInstitutionID	Element	Optional	
IDCardEnabled	Element	Optional	
AmountBefore	Element	Optional	
DebugEnabled	Element	Optional	
TerminalOwnerAddress	Element	Optional	
TerminalOwnerName	Element	Optional	
TipPercent	Element	Optional	
PreAuthPercent	Element	Optional	
AttendantIDUsed	Element	Optional	
TerminalDiscountEnabled	Element	Optional	
XMLDiscountEnabled	Element	Optional	
RefundActionEnabled	Element	Optional	
SupportedLanguages	Element	Optional	
TerminalLanguages	Element	Optional	
TerminalCurrentLanguage	Element	Optional	
TerminalPrintLanguage	Element	Optional	
CardAcceptorBusinessCode	Element	Optional	
CardAcceptorNameLocation	Element	Optional	
TransactionTimeStr	Element	Optional	
PrinterTerminalOwnerName	Element	Optional	
PrinterTerminalOwnerAddress	Element	Optional	
PANStarsMask	Element	Optional	
CurrencyCodeStr	Element	Optional	
CurrencyNameStr	Element	Optional	
SecondCurrencyCodeStr	Element	Optional	
SeconCurrencyNameStr	Element	Optional	
SecondaryCurrencyRate	Element	Optional	
PrinterHeader	Element	Optional	
PrinterFooter	Element	Optional	

3.5.24 SetClientPANRequest – SetClientPANResponse

SetClientPANRequest

Tag	Type	Usage	Explanation
PANList	Element	Required	Up to 100 PAN (BIN) entries formatted as follows:

| | | | 1 byte length + 9 bytes PAN (BIN) data. All data in ASCII numbers. For example 3 Pan entries. First 8 bytes length, second 6 and third 9 – '867639223 6676392 9676392232'. |

SetClientPANResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code

3.5.25 SetECRPANRequest – SetECRPANResponse

SetECRPANRequest

Tag	Type	Usage	Explanation
ECRPANList	Element	Required	Up to 100 PAN (BIN) entries formatted as follows: 1 byte MatchLength + 9 bytes PANStart (BIN) data + 1 byte Type + 33 bytes PanID. All data in ASCII numbers. For example 3 Pan entries. First 8 bytes length, second 6 and third 9 – '867639223 BX bank discount 6676392 CSome client card 9676392232BY bank discount '.

SetECRPANResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code

3.5.26 DoBeepRequest – DoBeepResponse

DoBeepRequest

Tag	Type	Usage	Explanation
Frquency1	Element	Optional	Hz
Duration1	Element	Optional	* 10ms
Interval1	Element	Optional	* 10ms
Frquency2	Element	Optional	Hz
Duration2	Element	Optional	* 10ms
Interval2	Element	Optional	* 10ms
Frquency3	Element	Optional	Hz
Duration3	Element	Optional	* 10ms
Interval3	Element	Optional	* 10ms
Repeat	Element	Optional	times
RepeatInt	Element	Optional	* 10ms

DoBeepResponse

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code

3.5.27 Error

Tag	Type	Usage	Explanation
ReturnCode	Element	Required	Operation result code

3.6 ReturnCodes

Response messages may contain the following ReturnCode values:

ReturnCode	Category	Explanation
0	Info	Operation succeeded
1	Info	Card inserted
32769	Error	XML message error
32770	Error	Wrong XML message version
32771	Error	Incorrect parameter in the XML message
32772	Error	Communication problem
32773	Error	XML syntax error
32774	Error	Technical error
32775	Error	Sequence error
32776	Error	Timeout. Could not perform operation within specified time period
32778	Error	Transaction failed
32779	Error	Operation can not be performed, try again
32780	Error	Disconnected from the client
32781	Error	Specified transaction missing
32782	Error	Operation cancelled manually
32783	Error	This command is not supported by POS (for example because of terminal configuration)
32784	Error	ID card PIN error
32785	Error	Smartcard reader error
32786	Error	Amount error
32787	Error	Currency error

Appendix 1. Message examples

1. ReadCardRequest

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<PosXML version=„6.0.2">
      <ReadCardRequest>
      </ReadCardRequest>
</PosXML>
```

2. ReadCardResponse

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<PosXML version=„6.0.2">
      <ReadCardResponse>
            <ReturnCode>0</ReturnCode>
            <Card>
                  <Pan>9233660000103227</Pan>
                  <Expires>07/05</Expires>
                  <ServiceCode>700</ServiceCode>
            </Card>
      </ReadCardResponse>
</PosXML>
```

3. ReadIDCardRequest

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<PosXML version=„6.0.2">
      <ReadIDCardRequest>
      </ReadIDCardRequest>
</PosXML>
```

4. IDCardResponse

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<PosXML version=„6.0.2">
      <IDCardResponse>
            <ReturnCode>0</ReturnCode>
            <IDCard>
                  <Surname>Smith</Surname>
                  <FirstName>John</FirstName>
                  <MiddleName></MiddleName>
                  <Gender>M</Gender>
                  <IDCode>30901010245</IDCode>
                  <CardNumber>A01234567</CardNumber>
                  <ValidFrom>01.01.2009</ValidFrom>
                  <ValidTo>01.01.2019</ValidTo>
                  <Citizenship>EST</Citizenship>
                  <PlaceOfBirth>Tallinn</PlaceOfBirth>
                  <DateOfBirth>01.01.2009</DateOfBirth>
                  <ResidencePermitType></ResidencePermitType>
                  <Comment1></Comment1>
                  <Comment2></Comment2>
                  <Comment3></Comment3>
                  <Comment4></Comment4>
            </IDCard>
      </IDCardResponse>
</PosXML>
```

5. TransactionRequest

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<PosXML version=„6.0.2“>
      <TransactionRequest>
            <Amount>50000</Amount>
            <CurrencyName>EEK</ CurrencyName>
            <TransactionID>ABC123</TransactionID>
            <PrintReceipt>48</PrintReceipt>
      </TransactionRequest>
</PosXML>
```

6. TransactionResponse (online transaction with chip card)

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<PosXML version=„6.0.2“>
      <TransactionResponse>
            <ReturnCode>0</ReturnCode>
            <Reason></Reason>
            <TransactionData>
                  <TransactionID>ABC123</TransactionID>
                  <Amount>50000</Amount>
                  <AdditionalAmount>0</AdditionalAmount>
                  <DateTime>07.01.2009 13:40:13</DateTime>
                  <Stan>000072</Stan>
                  <Type>T1</Type>
                  <CardAction>2</CardAction>
                  <AuthorizationNo>054247</AuthorizationNo>
                  <SecAmount>3196</SecAmount>
                  <SecAdditionalAmount>0</SecAdditionalAmount>
                  <CurrencyName>EEK</CurrencyName>
                  <SecCurrencyName>EUR</SecCurrencyName>
                  <SignatureRequired>0</SignatureRequired>
                  <PINVerified>1</PINVerified>
            </TransactionData>
            <CardData>
                  <PhysicalType>41</PhysicalType>
                  <Pan>************1570</Pan>
                  <CardName>HANSA VISA KREDIIT</CardName>
                  <Expires>**/**</Expires>
                  <ServiceCode>201</ServiceCode>
                  <AL>Visa Credit</AL>
                  <AID>A0000000031010</AID>
            </CardData>
            <TerminalData>
                  <SerNo>9026808847</SerNo>
                  <ID>VOC21201</ID>
                  <Name>KAUBAMAJA!</Name>
                  <Address>TALLINN, KAUBA 1</Address>
                  <MerchantRegNo>11060344</MerchantRegNo>
                  <PayDesk>005</PayDesk>
                  <VerificationResult>0080000800</VerificationResult>
                  <ApplicationCryptogram>FA92BA6EF529E091</ApplicationCryptogram>
                  <CID>40</CID>
                  <TSI>F800</TSI>
                  <CVMR>010302</CVMR>
                  <IAD>06010A03642000</IAD>
```

```
                <UPN>BD60438A</UPN>
                <ATC>0062</ATC>
                <AIP>5C00</AIP>
                <TT>0</TT>
                <PrinterStatus>2</PrinterStatus>
        </TerminalData>
        <AdditionalInfo></AdditionalInfo>
        <MerchReceipt>
                CARD PAYMENT RECEIPT
                KAUBAMAJA! TALLINN, KAUBA 1
                Terminal:VOC21201    Reg:11060344    Paydesk:005
                Receipt:000072        Time:07.01.2009-13:40:13
                Author. no: 054247     T1
                TRANSACTION DONE
                Amount:                             500.00 EEK
                                                   (31.96 EUR)
                Payment card: HANSA VISA KREDIIT
                PAN:************1570
                AL: Visa Credit
                AID:A0000000031010
                CID:40   TC:FA92BA6EF529E091
                TVR:0080000800 TSI:F800 CVMR:010302
                IAD:06010A03642000
                UPN:BD60438A TT:0 AIP:5C00 ATC:0062
                PIN CHECKED
        </MerchReceipt>
        <CustReceipt>
                CARD PAYMENT RECEIPT
                KAUBAMAJA! TALLINN, KAUBA 1
                Terminal:VOC21201    Reg:11060344    Paydesk:005
                Receipt:000072        Time:07.01.2009-13:40:13
                Author. no: 054247     T1
                TRANSACTION DONE
                Amount:                             500.00 EEK
                                                   (31.96 EUR)
                Payment card: HANSA VISA KREDIIT
                PAN:************1570
                AL: Visa Credit
                AID:A0000000031010
                PIN CHECKED
                Retain receipt for statement verification
        </CustReceipt>
    </TransactionResponse>
</PosXML>
```

7. TransactionRequest

```
<?xml version="1.0" encoding="UTF-8" ?>
<PosXML version=„6.0.2">
    <TransactionRequest>
        <Amount>10000</Amount>
        <CurrencyName>EEK</ CurrencyName>
        <TransactionID>ABC124</TransactionID>
        <PrintReceipt>48</PrintReceipt>
    </TransactionRequest>
</PosXML>
```

8. TransactionResponse   (online declined transaction with chip card)

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<PosXML version=„6.0.2“>
      <TransactionResponse>
            <ReturnCode>32778</ReturnCode>
            <Reason>
                  Card declined transaction.  System error! (909).. Return
            card!. </Reason>
            <TransactionData>
                  <TransactionID>ABC124</TransactionID>
                  <Amount>10000</Amount>
                  <AdditionalAmount>0</AdditionalAmount>
                  <DateTime>07.01.2009 13:51:02</DateTime>
                  <Stan>000073</Stan>
                  <Type>T1</Type>
                  <CardAction>2</CardAction>
                  <AuthorizationNo>        </AuthorizationNo>
                  <SecAmount>639</SecAmount>
                  <SecAdditionalAmount>0</SecAdditionalAmount>
                  <CurrencyName>EEK</CurrencyName>
                  <SecCurrencyName>EUR</SecCurrencyName>
                  <SignatureRequired>0</SignatureRequired>
                  <PINVerified>1</PINVerified>
            </TransactionData>
            <CardData>
                  <PhysicalType>41</PhysicalType>
                  <Pan>************1570</Pan>
                  <CardName>HANSA VISA KREDIIT</CardName>
                  <Expires>**/**</Expires>
                  <ServiceCode>201</ServiceCode>
                  <AL>Visa Credit</AL>
                  <AID>A0000000031010</AID>
            </CardData>
            <TerminalData>
                  <SerNo>9026808847</SerNo>
                  <ID>VOC21201</ID>
                  <Name>KAUBAMAJA!</Name>
                  <Address>TALLINN, KAUBA 1</Address>
                  <MerchantRegNo>11060344</MerchantRegNo>
                  <PayDesk>005</PayDesk>
                  <VerificationResult>0080000800</VerificationResult>
                  <ApplicationCryptogram>1CE06FC829F004E9</ApplicationCryptogra
            m>
                  <CID>00</CID>
                  <TSI>E800</TSI>
                  <CVMR>010302</CVMR>
                  <IAD>06010A03240400</IAD>
                  <UPN>C49A93CE</UPN>
                  <ATC>0063</ATC>
                  <AIP>5C00</AIP>
                  <TT>0</TT>
                  <PrinterStatus>2</PrinterStatus>
            </TerminalData>
            <AdditionalInfo></AdditionalInfo>
            <MerchReceipt>
```

```
                    ERRORMESSAGE
                    Terminal:VOC21201    Reg:11060344    Paydesk:005
                    Receipt:000073       Time:07.01.2009-13:51:02
                    Transaction failed
                    Card declined transaction
                     System error! (909).
                    Return card!

                    Payment card: HANSA VISA KREDIIT
                    PAN:************1570
                    AL: Visa Credit
                    AID:A0000000031010
                    CID:00  TC:1CE06FC829F004E9
                    TVR:0080000800 TSI:E800 CVMR:010302
                    IAD:06010A03240400
                    UPN:C49A93CE TT:0 AIP:5C00 ATC:0063
            </MerchReceipt>
            <CustReceipt></CustReceipt>
        </TransactionResponse>
</PosXML>
```

Appendix 2. Control codes for printing

Each line may contain formatting code blocks. A code block has effect only on current line. Block begins with "{*" and ends with "*}". Inside block may be several formatting codes separated with comma.

Printing result depends on printer type terminal uses).

- Alignement (default – left)

CNT – center
RGT – right

- Format (default – normal)

BLD – bold
REV – dark background
ITA – italic
UND – underlined

- Letter size (default 48 symbols, normal size)

11C – 32 symbols per line
15C – 42 symbols per line
20C – 48 symbols per line
DHT – double letter height
DWD – double letter width
DWH – double letter height and width
QWH – quardo letter height and width

For example "{*11C,CNT,REV,DWH*}Hello"
Will be printed as a centered text on dark background with double letter height stal.

`Hello`