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Apriva POS Message Specification

XML Interface - Debit Addendum

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This document is Apriva POS Message Specification for XML Interface - Debit Addendum.

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OVERVIEW

APRIVATalk is the base foundation for APRIVA's gateway solution. The framework that makes up APRIVATalk has full flow control, data integrity, and scalability. APRIVATalk contains multiple layers which can be implemented using different levels of complexity.

The focus of this document will be to enable the developer to begin using the APRIVA POS XML Protocol.

TRANSACTION TYPES

Overview

Debit Transactions

Debit transactions are for use with debit cards which pull funds directly from a customer bank account.

<Debit>… </Debit>

BASE FIELD DEFINITIONS

See AprivaPOS_XML Master document for general field definitions.

Data Field Requirements

- For online void transactions the STAN sent in field 11 is a new STAN and the STAN of the transaction being adjusted will be sent in field 63 0x2011
- Card holder data should always be protected. This includes masking any account number after it has been entered and never displaying track data.
- All invoice numbers sent to the host must be unique per batch.
- The expiration date should be validated before sending on all transactions where the track data contains the expiration date or the merchant has manually entered the expiration date.
- All fields identified as required in the Apriva POS XML specification must be sent.

DEBIT MESSAGE SPECIFICATION

Message Types

The type of message plus the processing code allows the server to determine what type of transaction the server must process.

Type	Processing Code
Online Debit Sale(1)	Sale
Online Debit Refund(2)	Refund
Online Debit Sale Void	SaleVoid
Online Debit Refund Void	RefundVoid
Online Debit Auth	Auth
Online Debit Post Auth	PostAuth
Key Exchange	KeyExchange
Online Reversal	Reversal
Balance Inquiry	DebitBalanceInquiry
Batch Upload	Original Proccode

(1)Note: Included in batch Debit Sales Count / Amount (*unless voided)

(2)Note: Included in batch Debit Refund Count / Amount

Receipt Requirements

Debit transactions require the following information on all receipts:

1. Transaction Date Time
    a. Interac required response Date Time to print
2. Transaction Number – Stan (Request)
3. Sequence Number – (Request field 0x2066)
    a. Required for Interac debit transactions.
4. Card Number
    a. Last 4 digits of the Card Number (Request)
5. Amount
    a. Sale Amount (Request Amount minus additional Amounts)
    b. Cash back Amount (Request)
    c. Tip Amount (Request)
    d. Fee Amount (Request)
    e. Total Charged (Request)
6. Approval Code (Response)
7. Response Text (Response)
8. Detailed Response Data – Required if present before the footer (Response)

Online Debit Sale / Refund

Request Message

Name	Data Format	Required	Comments
Message Type		M	*Request*
Version		M	
Processing Code	See above	M	
Amount	Currency	M	
Account Type (Debit)	See Constant Defs	C	Interact Debit
Stan	Short Number	M	New Stan assigned using standard Stan rules.
Transaction Time	Text	O	
Transaction Date	Text	O	
Entry Mode Type	See Constant Defs	M	
Entry Mode	See Constant Defs	M	
Track 2 Data	Text	C	
Track 1 Data	Text	C	Swiped and Track 2 N/A
Clerk ID	Text	O	
Client Transation Identifier	Text	O	
Pincode	Text	M	
Additional Amounts		O	
Invoice Number		O	
Key Serial Number		M	
Interac Canadian Debit Sequence Number		C	
Interac Canadian Debit		C	
Restaurant Information		O	
Reporting Data		O	
Processor Defined Data		C	

Card Info		C	Contains information about the encrypted card data

Response Message

Name	Data Format	Required	Comments
Message Type		M	*Response*
Version		M	
Processing Code	See above	M	
Stan	Short Number	C	
Transaction Time	Text	C	Processor Time
Transaction Date	Text	C	Processor Date
RRN	Text	O	
Auth ID	Text	C	
Client Transation Identifier	Text	O	
Response Code	Text	M	
Response Text		M	
Debit Response Data		O	
Transaction Result Data		O	
Interac Canadian Debit Sequence Number		O	
Interac Canadian Debit		C	
Key Serial Number		O	
Detailed Response Data		O	Required on receipt if present.
Credit/Debit Balance Response Data		O	
Detailed Merchant Response Data		O	Required on merchant receipt if present
Detailed Customer Response Data		O	Required on customer receipt if present

EMV Data		O	Optional for EMV transactions
Token Data		C	

Online Debit Void / Debit Reversal

Description

Online Debit Reversal is currently only supported by Nashville Canadian Interac Debit.

Request Message

Name	Data Format	Required	Comments
Message Type		M	*Request*
Version		M	
Processing Code	See above	M	
Amount	Currency	M	
Account Type (Debit)	See Constant Defs	C	
Stan	Short Number	M	New Stan assigned using standard Stan rules.
Transaction Time	Text	O	
Transaction Date	Text	O	
Entry Mode Type	See Constant Defs	M	
Entry Mode	See Constant Defs	M	
Track 2 Data	Text	C	
Track 1 Data	Text	C	Swiped and Track 2 N/A
Clerk ID	Text	O	
Client Transation Identifier	Text	O	
Pincode	Buffer	M	
Key Serial Number		C	DUKPUT
Online Void Transaction Data		M	

Interac Canadian Debit Sequence Number		C	Interac Debit
Interac Canadian Debit		C	Interac Debit
Interac Canadian Debit Reversal Reason Code		C	Required for Reversal
Restaurant Information		O	
Reporting Data		O	Debit void only
Processor Defined Data		C	
Card Info		C	Contains information about the encrypted card data

Response Message

Name	Data Format	Required	Comments
Message Type		M	*Response*
Version		M	
Processing Code	See above	M	
Amount	Currency	M	
Stan	Short Number	C	
Transaction Time	Text	C	Processor Time
Transaction Date	Text	C	Processor Date
RRN	Text	O	
Auth ID	Text	C	
Client Transation Identifier	Text	O	
Response Code	Text	M	
Response Text		M	
Debit Response Data		O	
Transaction Result Data		O	
Interac Canadian Debit Sequence Number		O	

Interac Canadian Debit		C	
Key Serial Number		O	
Detailed Response Data		O	Required on receipt if present

Online Debit Balance Inquiry

Request Message

Name	Data Format	Required	Comments
Message Type		M	*Request*
Version		M	
Processing Code	See above	M	
Account Type (Debit)	See Constant Defs	C	Interact Debit
Stan	Short Number	M	New Stan assigned using standard Stan rules.
Transaction Time	Text	O	
Transaction Date	Text	O	
Entry Mode Type	See Constant Defs	M	
Entry Mode	See Constant Defs	M	
Track 2 Data	Text	M	
Clerk ID	Text	O	
Client Transation Identifier	Text	O	
Pincode	Text	M	
Key Serial Number		M	
Invoice Number		O	
Interac Canadian Debit Sequence Number		C	
Interac Canadian Debit		C	
Reporting Data		O	
Processor Defined Data		C	
EMV Data		O	Optional for EMV transactions
Card Info		C	Contains information about the encrypted card data

Response Message

Name	Data Format	Required	Comments
Message Type		M	*Response*
Version		M	
Processing Code	See above	M	
Stan	Short Number	C	
Transaction Time	Text	C	Processor Time
Transaction Date	Text	C	Processor Date
RRN	Text	O	
Auth ID	Text	C	
Client Transation Identifier	Text	O	
Response Code	Text	M	
Response Text		M	
Debit Response Data		O	
Transaction Result Data		O	
Interac Canadian Debit Sequence Number		O	
Interac Canadian Debit		C	
Key Serial Number		O	
Detailed Response Data		O	Required on receipt if present.
Credit/Debit Balance Response Data		O	
Detailed Merchant Response Data		O	Required on merchant receipt if present
Detailed Customer Response Data		O	Required on customer receipt if present
EMV Data		O	Optional for EMV transactions
Token Data		C	

Key Exchange

Description

This transaction is used when the device needs to sync.

Request Message

Name	Data Format	Required	Comments
Message Type		M	*Request*
Version		M	
Processing Code	See above	M	KeyExchange
Stan	Short Number	M	New Stan assigned using standard Stan rules.
Pincode		C	PIN code for card
Key Serial Number		C	
Interac Sequence Number		C	
Interac Debit		C	Group of tags used only for Interac debit key exchange: IdentificationNumber, CheckDigits, Mac, EncryptedBalanceAmount, Key1, Key2, Key3, and Key4
Identification Number		C	
Check Digits		C	
Mac		C	
EncryptedBalanceAmount		C	
Key1		C	
Key2		C	
Key3		C	
Key4		C	
Processor Defined Data		C	

Response Message

Name	Data Format	Required	Comments
Message Type		M	*Response*
Version		M	
Processing Code	See above	M	KeyExchange
Stan	Short Number	C	
Response Code	Text	M	
Response Text		M	
Key Serial Number		C	
Transaction Result		C	
Interac Debit		C	Group of tags used only for Interac debit key exchange: IdentificationNumber, CheckDigits, Mac, EncryptedBalanceAmount, Key1, Key2, Key3, and Key4
Identification Number		C	
Check Digits		C	
Mac		C	
EncryptedBalanceAmount		C	
Key1		C	
Key2		C	
Key3		C	
Key4		C	
Debit Response Data		C	Including the Processing Network Name tag
Processing Network Name		C	
Processor Defined Data		C	

ADDITIONAL TAG SPECIFICATION

Field Definitions

Additional Amounts

Description: This field is used to hold all the information amounts that can be reflected within the total amount of the transaction.

Tag Format: <AdditionalAmounts>

Tip Amount

Description: This is the amount of tip for this transaction. This is available for any transaction that takes tip such as restaurant or retail with tip.

Sub Tag Format: <Tip>

Value Format: Currency

Cash Back Amount

Description: This is the amount of cash back for this transaction. This is available for debit sale and EBT cash benefit sale transactions.

Sub Tag Format: <CashBack>

Value Format: Currency

Fee / Surcharge Amount

Description: This is a fee amount that is part of the total amount.

Sub Tag Format: <FeeOrSurcharge>

Value Format: Currency

Food Amount

Description: This is a food amount that is part of the total amount.

Sub Tag Format: <Food>

Value Format: Currency

Beverage Amount

Description: This is a beverage amount that is part of the total amount.

Sub Tag Format: <Beverage>

Value Format: Currency

Entered Amount

Description: The entered amount is the actual amount of a restaurant transaction prior to tip padding.

Sub Tag Format: <Entered>

Value Format: Currency

Original Authorization Amount

Description: The original authorization amount is the actual authorized amount that was returned to the device as part of the sale request. It is only required at upload in order to recreate the transaction in the case it was lost.

Sub Tag Format: <OriginalAuthorization>

Value Format: Currency

Debit Balance Response Data

Description: This field is used when a balance inquiry is run on a prepaid credit card.

Tag Format: <CDBalanceResponseData>

Balance Amount

Description: The available balance on the card

Sub Tag Format: <CDBalanceAmount>

Data Format: Currency

Approved Amount

Description: The approved amount of the transactions

Sub Tag Format: <CDApprovedAmount>

Data Format: Currency

Previous Balance

Description: The previous balance on the card

Sub Tag Format: <CDPreviousBalance>

Data Format: Currency

Available Balance

Description: The available balance on the card

Sub Tag Format: <CDAvailableBalance>

Data Format: Currency

Cash Balance

Description: The amount of cash available on the card

Sub Tag Format: <CDCashBalanceAmount>

Data Format: Currency

Debit Response Data

Description: This field is used to relay information back to the terminal when a debit transaction is ran.

Tag Format: <DebitResponse>

Debit Receipt Number

Description: This value should be printed on the receipt if received

Sub Tag Format: <ReceiptNumber>

Processing Card Type Number

Description: This value should be printed on the receipt if received

Sub Tag Format: <CardTypeNumber>

Processing Network Name

Description: This value should be printed on the receipt if received

Sub Tag Format: <NetworkName>

Interac Canadian Debit Sequence Number

Description: The Interac sequence number is an always unique value required by interact debit.

Tag Format: <InteracSequenceNumber>

Interac Canadian Debit

Description: The Interac field holds values related to the Canadian debit market.

Tag Format: <InteracDebit>

Identification Number

Description: This holds a unique ID that may be required by the processor.

Sub Tag Format: <IdentificationNumber>

CheckDigits

Description: This is required by some Canadian processors for master session. Nashville requires this field.

Sub Tag Format: <CheckDigits>

MAC

Description: Paymetech and Nashville use require this field.

Sub Tag Format: <Mac>

Encrypted Balance Amount

Description: This is required by some Canadian processors for master session. Nashville requires this field. It is used by the pin pad to display the remaining balance on the debit card.

Sub Tag Format: <EncryptedBalanceAmount>

Key1 to Key4

Description: Key fields required by the processor see below how it maps

Sub Tag Format: <Key1>, <Key2>, <Key3>, <Key4>

Processor	Key1	Key2	Key3	Key4
Nashville	TBD	TBD	TBD	TBD

Interac Reversal Reason Code

Description: Reason code for why the reversal is occuring.

Tag Format: < InteracReversalReasonCode>

Data Format: see constant defs

CONSTANT DEFINITIONS

*Please note that the values listed below are case sensitive.

Debit Account Types

Type	Value
Default	Default
Saving	Saving
Checking	Checking

EDC Types

Type	Value
Debit	2

Entry Mode

Type	Value
Standard/ Contactless / Smart Card Devices	
Manual	Manual
Track 1	Track1
Track 2	Track2

Entry Mode Type

Type	Value
Standard	Standard
Contactless	Contactless
Contactless w/ RFID (PayPass)	PayPass
Smart Card Chip Card	SmartChipCard
Smart Card Non-Chip Card	SmartNonChipCard

Function Code

Type	Value
Request Status	0x01
Transfer Successful	0x02
No Update Available	0x03
Update Available	0x04
Continue	0x05
Last Block	0x06

Interac Reversal Reason Codes

Type	Value
Transaction Timeout	Timeout
Parse Error	ParseError
MAC verification error	MACVerificationError
MAC Syncing Error	MACSyncError
Message Encryption Error	MessageEncryptionError
System Error	SystemError

Transaction ID

Debit

Name	Value
Sale	13
Refund	14
Key Exchange	65

Transaction Type

Type	Value
Debit Card transaction	Debit

APPENDIX A - APRIVA CERTIFICATION INFORMATION

Overview

APRIVA is a gateway to many different processor systems. In order to assist in the testing of this messaging API's implementation, the following information should be helpful.

For general trigger amounts see master credit spec.

Test Processor Interface

Any successful transaction –

Transactions will return the following if not noted elsewhere to the contrary:

Processing Card Type of "028"

Processing Net Name of "PULSE"

Debit Receipt Number of "12345"

Other

A Key Exchange Message with merchant number set to "Nashville" and country set to Canada –

Returns "Hard Coded Success" with the following keys:

MAC – "3285738294858291"

Key 1 – "5489632514569875"

Key 2 – "1234588568458446"

Key 3 – "3285738294858291"

A Key Exchange Message –

Returns "Hard Coded Success" but no new keys

A Reversal Message for 2.38 –

Reversal will fail with text "Reversal Failed"

A Reversal Message for anything other than 2.38 –

Reversal will be successful with text "Hard Coded Success".

DOCUMENT MODIFICATION HISTORY

Date	Version	Changes Made	Editor
9/15/15	5.1.6	Added Client Transaction Identifier to Request and Response. Updates in anticipation of INTERAC.	PH
7/10/2015	5.1.5	Update to Debit Key Exchange for Interac	MJ
4/29/15	5.0.8	Added Test Processor Trigger Amounts	PH
12/30/14	5.0.7	External Version Created	PH