Enhanced Data Processing

Revision 18.3.1

March 19, 2018

Table of Contents

Introduction

Normally when a card is charged, the cardholder's statement contains only a basic amount of information. For the most part, the statement tells the cardholder the name of the merchant, the location or phone number, and the total amount billed. For most cardholders, this arrangement is acceptable. This is the most basic level of detail, and it is called Level 1 data.

With the rise of business-to-business purchase card and commercial card transactions, more detail was required, so Enhanced Data was added for commercial card transactions. (Purchase cards and commercial cards will hereafter be referred to as commercial cards).

Level 2 data provides additional information about the order, including tax, shipping, and duty charges.

Level 3 provides information about each invoice line item within the order, including a description, tax status, and special discounts. A given Level 1 transaction with Level 2 data can have many Level 3 (line item detail) entries.

Enhanced Data (Level 2/3) Fields

Columns included in Level 2 and Level 3 tables below provide the following information:

Supported By

> Sub columns are included for each card brand indicating whether the field is supported with headings of "V" for Visa, "M" for MasterCard, and "A" for American Express.
>
> For Visa & MasterCard columns, "Y" indicates that the field is supported and "N" indicates that the field is not supported.
>
> Legend used for American Express column is "M" for Mandatory, "C" for Conditional, "O" for Optional, "N" for Not Supported.

Data Rates

> Sub columns specify whether the field is required to qualify for Visa & MasterCard Canada Enhanced Data interchange rates using "M" for Mandatory, and "C" for Conditional.
>
> Details are not provided for American Express since an Enhanced Data interchange program is not currently available.

Notes

> Details are provided for allowed values and conditional fields. For some fields, it is recommended that a value always be provided in order to satisfy both card brand and cardholder data requirements.

Field level details including data type and values are provided in the Real-Time Transaction Processing Integration and Batch Processing Specifications documentation.

Level 2 Fields

Field Name	Description	Supported By			Data Rates		Notes
		V	**M**		**A**	**V**	**M**
City Tax Amount	City tax amount	N	N	C			Amex • Only used for U.S. merchant transactions
City Tax Rate	City tax rate expressed as a percentage	N	N	C			Amex • Only used for U.S. merchant transactions
County Tax Amount	County tax amount	N	N	C			Amex • Only used for U.S. merchant transactions
County Tax Rate	County tax rate expressed as a percentage	N	N	C			Amex • Only used for U.S. merchant transactions
Customer GST/HST Registration Number	Customer's GST or HST registration number.	Y	N	C	C		Visa & Amex • Required if the customer has provided a registration number
Customer Name	Name of the customer who placed the order	N	N	O			Amex • Used for cardholder's name
Customer PO Number	Identifier provided by the customer such as purchase order number or job number	Y	Y	C	C	C	Required if the customer has provided a PO Number or reference number
Customer Reference	Cardholder's reference data	N	N	O			Amex • Can include client specific accounting information
Duty Amount	Amount of duty to be paid for the invoice.	N	Y	N			Value of "0" can be used. Visa • Not supported for Canada or U.S. • Duty Amount can be included as Invoice Line Item

Field Name	Description	Supported By			Data Rates		Notes
		V	M		A	V	M
GST/HST Amount	Total GST or HST for the transaction.	Y	Y	C	M	M	Value of "0" is to be used for tax exempt transactions.
GST/HST Rate	The Goods and Services Tax (GST) or Harmonized Sales Tax (HST) Rate expressed as a percentage.	N	Y	C		M	Value of "0" is to be used for tax exempt transactions.
Invoice Number	External system transaction ID assigned by the merchant, typically an order or invoice number.	Y	Y	Y	M		Recommended that a value be provided for Visa & MasterCard.
Invoice Total	Total amount of the order including all taxes, shipping & handling, and discount.	N	N	N			Recommended that a value be included in order to help troubleshoot any invoice balancing issues.
Line Item Count	Number of invoice line items included in the transaction (001 to 999). Number of line items supported by some card associations and financial institutions may be less than 999.	N	N	N			Recommended that a value be included in order to help troubleshoot any invoice balancing issues.
Merchant GST/HST Registration Number	Merchant's GST or HST registration number.	Y	Y	M	M		GST/HST registration number included in Payroc merchant setup will be used as a default if no value is provided for this field
Merchant PST/QST Registration Number	Merchant's Provincial Sales Tax registration number.	Y	Y	C	C		Visa & Amex • Required if QST applies
Order Date	Date when the order was placed in format YYYYMMDD.	Y	Y	N	C		Visa • Required if included on the invoice. • Must be earlier or same date as the transaction date.
Order Discount	Total order discount amount.	Y	Y	O	C		Value of "0" can be used. Visa: • Required if discount has been applied at invoice level

Field Name	Description	Supported By			Data Rates		Notes
		V	**M**		**A**	**V**	**M**
PST/QST Amount	Total PST, QST, or U.S. Local Tax for the transaction.	Y	Y	C	C	C	Required if PST/QST taxes apply
PST/QST Rate	Provincial Sales Tax (PST), Quebec Sales Tax (QST) or U.S. Local Tax Rate expressed as a percentage.	Y	Y	C	C	C	Required if PST/QST taxes apply
Requester /Buyer Name	The name of the individual/buyer (not the company) requesting the goods or services.	Y	N	M	C		Visa • Required if invoice amount > $150.00 Recommended that a value be provided for all transactions.
"Ship to:" Address 1	"Ship to:" address line 1	N	N	C			Amex • Required if a value has been provided for Ship To Name
"Ship to:" Address 2	"Ship to:" address line 2	N	N	O			
"Ship to:" City	"Ship to:" city	N	N	C			Amex • Required if a value has been provided for Ship To Name
"Ship to:" Country Code	"Ship to:" country code	Y	Y	C	C		Visa • Required for international shipments. Amex • Only supports Ship To Country codes for Canada or U.S.
"Ship to:" Name	"Ship to:" name	N	N	O			
Ship To Postal/Zip Code	Postal/ZIP code of the Ship To address	Y	Y	M	C		Visa • Required if shipment of goods is involved Amex • Required if a value has been provided for Ship To Name Recommended that a value be provided for all card brands.

Field Name	Description	Supported By			Data Rates		Notes
		V	M		A	V	M
Ship To Province/State	Province/State of the Ship To address	N	Y	M			Recommended that a value be provided for all card brands. Amex • Required if a value has been provided for field #35 Ship To Name
Shipping & Handling	Total shipping & handling for the order.	Y	Y	O	C		Value of "0" can be used. Visa • If Shipping & Handling is being charged as a separate fee then the amount must be specified at invoice level or provided as an invoice line Visa recommends that Shipping & Handling be included as a line item.
State Tax Amount	State tax amount	N	N	C			Amex • Only used for U.S. merchant transactions
State Tax Rate	State tax rate expressed as a percentage.	N	N	C			Amex • Only used for U.S. merchant transactions
Supplementary Data	For Amex transactions, the Supplementary Data field can be used to pass up to 4 lines of free form text (also known as 4x40).	N	O	O			

Notes:

For Amex, minimum of one tax type is required:

GST/HST and/or PST/QST for Canadian merchant transactions

Either 1) Local Tax, or 2) City, County, and State taxes for U.S. merchant transactions

For Amex, Ship To fields are only supported if the country is Canada or U.S.

Level 3 Fields

Field Name	Description	Supported By			Data Rates		Notes	
		V	**M**		**A**	**V**	**M**	
City Tax Amount	City tax amount on the line item.	N	N	C				Amex • Only used for U.S. merchant transactions
City Tax Rate	City tax rate expressed as a percentage	N	N	C				Amex • Only used for U.S. merchant transactions
County Tax Amount	County tax amount on the line item.	N	N	C				Amex • Only used for U.S. merchant transactions
County Tax Rate	County tax rate expressed as a percentage.	N	N	C				Amex • Only used for U.S. merchant transactions
Customer PO	Customer purchase order number for specific item.	N	Y	O				
Customer SKU Number	Customer's stock number for item being sold/returned.	N	N	O				
Discount	Line item discount amount or zero if discount is applied at the invoice header level.	Y	N	O	C			Value of "0" can be used if the discount is applied at the Invoice Level. Visa • Required if discount has been applied at Line Item level
Division Number	This field may contain the division number of the card member who purchased the item or service.	N	N	O				

Field Name	Description	Supported By			Data Rates		Notes
		V	**M**		**A**	**V**	**M**
Extended Item Amount	For Visa & MasterCard, Extended Item Amount is calculated as Unit Cost * Quantity - Line Item Discount. For Amex, Extended Item Amount is calculated as Unit Cost * Quantity.	Y	Y	M	M	M		Value of "0" can be used for zero cost line items
GL Account Number	This field may contain the general ledger account number for the item/service purchased.	N	N	O				
GST/HST Amount	GST/HST amount for the line item.	Y	Y	C	C			Value of "0" can be used Visa • Required if taxes were calculated at Line Item level
GST/HST Rate	GST/HST rate expressed as a percentage.	Y	Y	C	M			Value of "0" is to be used for tax exempt or zero cost line items Visa • Required even if taxes are calculated at invoice level
Item Description	Merchant's description of the item being sold/returned.	Y	Y	M	M	M		
Item Commodity Code	Item commodity code which identifies the type of purchase.	Y	Y	N	C			Visa • Value to be provided if required by the merchant's business
Manufacturer SKU Number	Manufacturer's stock number for item being sold/returned.	N	N	O				
PO Line Number	This field may contain the PO line number.	N	N	O				
Product Code	Merchant's SKU number for the item being sold/returned.	Y	Y	O	M	M		

Field Name	Description	Supported By			Data Rates		Notes
		V	M		A	V	M
PST/QST Amount	PST/QST or U.S. Local tax amount for the line item.	N	Y	C			Value of "0" can be used
PST/QST Rate	PST/QST or U.S. Local tax rate expressed as a percentage.	N	Y	C			Value of "0" is to be used for tax exempt or zero cost line items
Quantity	Number of units sold or returned.	Y	Y	M	M	M	Visa • Value of "0" can be used for zero cost line items MasterCard & Amex • Value of "0" cannot be used
State Tax Amount	State tax amount on the line item.	N	N	C			Amex • Only used for U.S. merchant transactions
State Tax Rate	State tax rate expressed as a percentage.	N	N	C			Amex • Only used for U.S. merchant transactions
Supplementary Data/Order Number	This field may contain a free form product or service description for the line item.	N	N	O			
Transaction Reference Number	Unique transaction ID assigned by the merchant.	N	N	O			
Unit Cost	Cost per unit of measure.	Y	Y	M	M	M	Value of "0" can be used for zero cost line items
Unit of Measure	Unit of measure indicating how the item is sold, e.g.: case, each, bucket, drum.	Y	Y	M	M	M	Amex: • Unit of measure code must be expressed as 2 char code defined in ASC X12 (EDI) Standard.

Notes:

Amex requires at least one Level 3 record (Invoice Line Item) per transaction.

For Amex, minimum of one tax type is required:

GST/HST and/or PST/QST for Canadian merchant transactions
Either 1) Local Tax, or 2) City, County, and State taxes for U.S. merchant transactions

Enhanced Data Validation Rules

In order to qualify for Visa & MasterCard Canada Enhanced Data interchange programs, transactions with Level 2 & 3 data must:

- Meet the field level requirements specified in the previous section
- Pass the arithmetic validation rules specified below

Additional requirements for Visa Canada Enhanced Data program:

- Enhanced data must be provided for all commercial card transactions
- Enhanced data must be reviewed by Visa to verify that it passes validation rules before a merchant can be registered for Enhanced Data rates

Visa - Arithmetic Validation Rules

If line item tax amounts are not provided then the Level 2 tax amounts are validated using the following formulas:

```
Invoice GST/HST Amount = Round(Sum(Extended Item Amount * Line Item
GST/HST Rate)) + Invoice Shipping GST/HST Amount

    Note: Invoice GST/HST Rate is used to calculate Invoice Shipping
    GST/HST Amount

Invoice PST/QST Amount = Round(Sum(Extended Item Amounts with
non-zero Line Item GST/HST Rate) * Invoice PST/QST Rate) + Invoice
Shipping PST/QST Amount

    Note: Invoice PST/QST Rate is used to calculate Invoice Shipping
    PST/QST Amount
```

If tax amounts are provided at line item level then the following formulas are used to validate the Level 2 and Level 3 tax amounts:

```
Line Item GST/HST Amount = Extended Item Amount * GST/HST Tax Rate

Invoice GST/HST Amount = Sum (Line Item GST/HST Amount) + Invoice
Shipping GST/HST Amount

    Note: Invoice GST/HST Rate is used to calculate Invoice Shipping GST/HST
    Amount

Invoice PST/QST Amount = Round(Sum(Extended Item Amounts with
non-zero Line Item GST/HST Rate) * Invoice PST/QST Rate) + Invoice
Shipping PST/QST Amount

    Note: Invoice PST/QST Rate is used to calculate Invoice Shipping PST/QST
    Amount
```

Extended Item Amount in Line Items is validated using the following formula:

```
Extended Item Amount = Quantity * Unit Cost - Line Item Discount
```

MasterCard - Arithmetic Validation Rules

Total tax amount must be .1% through 30% of transaction amount

- Rule does not apply if all tax fields are set to zero indicating that a transaction is tax exempt