Level II and Level III Processing

REST API

American Express Direct

Developer Guide





© 2021. Cybersource Corporation. All rights reserved.

Cybersource Corporation (Cybersource) furnishes this document and the software described in this document under the applicable agreement between the reader of this document (You) and Cybersource (Agreement). You may use this document and/or software only in accordance with the terms of the Agreement. Except as expressly set forth in the Agreement, the information contained in this document is subject to change without notice and therefore should not be interpreted in any way as a guarantee or warranty by Cybersource. Cybersource assumes no responsibility or liability for any errors that may appear in this document. The copyrighted software that accompanies this document is licensed to You for use only in strict accordance with the Agreement. You should read the Agreement carefully before using the software. Except as permitted by the Agreement, You may not reproduce any part of this document, store this document in a retrieval system, or transmit this document, in any form or by any means, electronic, mechanical, recording, or otherwise, without the prior written consent of Cybersource.

For Government or defense agencies: Use, duplication, or disclosure by the Government or defense agencies is subject to restrictions as set forth the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 and in similar clauses in the FAR and NASA FAR Supplement.

For civilian agencies: Use, reproduction, or disclosure is subject to restrictions set forth in subparagraphs (a) through (d) of the Commercial Computer Software Restricted Rights clause at 52.227-19 and the limitations set forth in Cybersource Corporation's standard commercial agreement for this software. Unpublished rights reserved under the copyright laws of the United States.

Authorize.Net, eCheck.Net, and The Power of Payment are registered trademarks of Cybersource Corporation. Cybersource, Cybersource Payment Manager, Cybersource Risk Manager, Cybersource Decision Manager, and Cybersource Connect are trademarks and/or service marks of Cybersource Corporation. Visa, Visa International, Cybersource, the Visa logo, and the Cybersource logo are the registered trademarks of Visa International in the United States and other countries. All other trademarks, service marks, registered marks, or registered service marks are the property of their respective owners.

Version: 20.1

Contents

Introduction to Level II and Level III Processing	4
About Level II Data	4
About Level III Data	4
Supported Processors and Card Types	4
About Level II and Level III Data Processing	5
Prerequisites for Level II Processing	6
Prerequisites for Level III Processing	6
Relaxed Requirements for Address Data and Expiration Date	6
numbered-elements	6
Using Decimals and Strings	7
Requesting Captures and Credits with Level II Data	7
Requesting Captures and Credits with Level III Data	8
Processor Information	9
American Express Direct	9
Transactions	9
Tax Fields	10
Available Fields	10
Reference Information	12
Exemption Status Values	12
Product Codes	13
Reference Data Codes	14
Units of Measurement Codes	15

Introduction to Level II and Level III Processing

For business to business customers, Level II and Level III processing can provide lower interchange rates in exchange for providing more information during a transaction.

Level II processing includes additional customer and tax information for the transaction. Currently, American Express, Mastercard, and Visa support Level II processing. Before you can use Level II processing with American Express, you must contact American Express and obtain approval to process Level II transactions.

Level III processing includes line-item data for each transaction. Currently, Mastercard and Visa support Level III processing.

This document provides guidelines that indicate which fields are required to obtain the best interchange rates. These guidelines are based on industry information available at the time of publication. Cybersource recommends that you contact your acquirer for the most current information requirements, as these requirements can change at any time.

About Level II Data

Level II cards, which are also called *Type II cards*, provide customers with additional information on their credit card statements about their purchases. Level II cards enable customers to easily track the amount of sales tax they pay and to reconcile transactions with a unique customer code. There are two categories of Level II cards:

- Business/corporate cards are given by businesses to employees for business-related expenses such as travel and entertainment or for corporate supplies and services.
- Purchase/procurement cards are used by businesses for expenses such as supplies and services. These cards are often used as replacements for purchase orders.

Each processor supports a different set of Level II fields. If your business is not in the United States, you must use additional fields.

About Level III Data

You can provide Level III data for purchase/procurement cards, which are used by businesses for expenses such as supplies and services. These cards are often used as replacements for purchase orders. The Level III data is forwarded to the company that made the purchase. It enables the company to manage its purchasing activities.

Unless otherwise specified, Level III transactions must include Level II data.

Supported Processors and Card Types

The following processors can be used to process Level II and Level III transactions.

Processor	Level II Card Types Supported	Level III Card Types Supported
American Express Direct	American Express	American Express
Chase Paymentech Solutions	 American Express Mastercard Visa	• Mastercard • Visa
Elavon Americas	• Mastercard • Visa	MastercardVisa
FDC Compass	 American Express Mastercard Visa	MastercardVisa
FDC Nashville Global	 American Express Mastercard Visa	MastercardVisa
FDMS Nashville	• Mastercard • Visa	• None
FDMS South	• Mastercard • Visa	• None
GPN	Mastercard Visa	MastercardVisa
OmniPay Direct	Mastercard Visa	MastercardVisa
RBS WorldPay Atlanta	Mastercard Visa	• Mastercard • Visa
TSYS Acquiring Solutions	Mastercard Visa	• Mastercard • Visa
Visa Platform Connect	 American Express Mastercard Visa	MastercardVisa
Worldpay VAP	 American Express Mastercard Visa	MastercardVisa

About Level II and Level III Data Processing

Level II and Level III data is not stored. The data is passed through to the processor. Thus if you request multiple partial captures or credits, you will need to include the Level II and Level III data in each request.

During the data processing, minimal validation is performed to minimize interference with business policies between the merchant and customers.

If Level III transactions produce batching errors while transmitting data to the processor, Level III processing field is disabled (value set to N) and the merchant is sent a message showing the change in status. When this happens, the request is not rejected, and the disabled processing field is included in the status message.

- For captures, the disabled field is bill_purchasing_level3_enabled
- For credits, the disabled field is credit_purchasing_level3_enabled

For example, when a capture transaction produce batching errors, the **bill_purchasing_level3_enable** field is set to N.

Prerequisites for Level II Processing

To activate Level II processing for American Express, contact American Express and Cybersource Customer Support.

Prerequisites for Level III Processing

Check with your processor to determine whether you need to add Level III processing to your contract or account setup.

When you are ready to go live with Level III processing, contact customer support to have your account configured to process Level III transactions, you will receive an error for invalid data.

Relaxed Requirements for Address Data and Expiration Date

To enable relaxed requirements for address data and expiration dates, contact Customer Support. For details about relaxed requirements, see Relaxed Requirements for Address Data and Expiration Dates.

numbered-elements

The cybersource XML schema includes several numbered elements. You can include these complex elements more than once in a request. For example, when a customer order includes more than one item, you must include multiple **<item>** elements in your request. Each item is numbered, starting with **0**. The XML schema uses an **id** attribute in the item's opening tag to indicate the number. For example:

<item id="0">

As a name-value pair field name, this tag is represented as an **item_0**. In this portion of the field name, the underscore before the number does not indicate hierarchy in the XML schema. The item fields are generically referred to as **item_#_<element-name>** in the documentation.

Below is an example of the numbered **<item>** element and the corresponding name-value pair field names. If you are using the Simple Object Access Protocol (SOAP), the client contains a corresponding **Item** class.

Using Decimals and Strings

Cybersource uses decimal points in all amount and tax rate fields; Cybersource does not use implied decimal points. For example, if the amount of the product being purchased is 29.95, set that field to 29.95.

For tax rates used with Level III transactions, you need to include a decimal point in the value. For example, if a tax rate is 1%, you should set that field to 0.01.

For many of the fields described in this document, Visa and Mastercard permit different lengths for alphanumeric (string) input. Cybersource accepts any length you provide. If the value you provide is longer than the payment card company permits, Cybersource truncates the value, keeping the left-most portion of the value. If the value you provide is shorter than the payment card company requires, Cybersource pads the field before sending it to the processor.

Requesting Captures and Credits with Level II Data

Important:

For all processors except Visa Platform Connect, you must check to ensure your account is enabled for Level III transactions. If you account is not enabled for level III data, the Level III data will not be sent to the processor.

To validate Level III credit transactions are enabled on your account, ensure the **orderInformation.invoiceDetails.level3TransmissionStatus** field is set to True.

- 1. Authorize a credit card payment.
- 2. Capture the authorization.

Include the following information in the capture request:

- Basic fields required for every capture request.
- Level II data. See the chapter in this document for the processor you are using.

Important: If you omit required Level II fields from a request, the transaction does not fail. Instead, it is processed as a regular non-Level II transaction. This could result in higher fees or penalties assessed against your account. Contact your processor to ensure you understand your processor's specific requirements for Level II transactions.

- 3. For all processors except Visa Platform Connect, ensure Level III data was transmitted.
- 4. Credit the payment. (if necessary)

Include the following information in the credit request:

- Basic fields required for every credit request.
- Level II data. See the chapter in this document for the processor used.

! Important: If you omit required Level II fields from a request, the transaction does not fail. Instead, it is processed as a regular non-Level II transaction. This could result in higher fees or penalties assessed against your account. Contact your processor to ensure you understand your processor's specific requirements for Level II transactions.

5. For all processors except Visa Platform Connect, ensure Level III data was transmitted.

Requesting Captures and Credits with Level III Data

To include Level III data in a capture or credit request:

1. Authorize a credit card payment.

It is recommended that for Level III transactions you include the total order amount in the authorization request, even though it is not required. Doing so ensures that your total order amount is used and that the capture or credit request total amount matches the original authorization total amount.

2. Capture the authorization.

Include the following information in the capture request:

- Basic fields required for every capture request.
 - Level II and Level III data. See the chapter in this document for the processor used.

! Important: If you omit required Level II and Level III fields from a request, the transaction does not fail. Instead, it is processed as a regular transaction. This could result in higher fees or penalties assessed against your account. Contact your processor to ensure you understand your processor's specific requirements for Level III transactions.

- Purchasing level field set to Level III
- 3. Credit the payment. (if necessary)

Include the following information in the credit request:

- Basic fields required for every credit request.
- Level II and Level III data. See the chapter in this document for the processor used.

Important: If you omit required Level II and Level III fields from a request, the transaction does not fail. Instead, it is processed as a regular transaction. This could result in higher fees or penalties assessed against your account. Contact your processor to ensure you understand your processor's specific requirements for Level II transactions.

Purchasing level field set to Level III

Processor Information

This section provides details associated with each processor that supports Level II and/or Level III data.

American Express Direct

American Express Direct can be used to process American Express Level II transactions for merchants in the U.S. who are doing business using U.S. dollars. American Express Direct can be used to process American Express Level III transactions for merchants in the U.S. using U.S. dollars or Canada using Canadian dollars.

! Important: This information provides guidelines that indicate which fields are needed in order to obtain the best interchange rates. The guidelines are based on industry information. It is recommended that you contact your acquirer for the most current information because the payment card companies can change their requirements at any time.

Transactions

American Express Direct requires the following fields in Level II and Level III transactions:

Important:

When you send a capture or credit request with Level II or Level III data or both, you must include the required fields for every capture or credit request. For information about the non-Level-III fields required for capture and credit requests, see .

Level II

The following fields are required for level II transactions:

- orderInformation.shipTo.postalCode
- $\bullet\ order Information. line Items []. tax Amount$

Level III

The following fields are required for level III transactions:

- orderInformation.amountDetails.taxAmount
- orderInformation.lineItems[].taxAmount
- processingInformation.purchaseLevel

Tax Fields

the following guidelines are used to include item-level tax fields in a request:

- You must include the amount and type fields. When you include only one of these fields for a tax line item, any of the information for that tax line item is not forwarded to the processor.
- The first set of item-level tax fields must use number 0. For example, orderInformation.lineItems[].taxDetails[].amount.
- You must use consecutive numbers for the tax line items; do not skip a number. If you skip a number, the tax line items that follow the skipped number are ignored.
- The request must also include the **orderInformation.lineItems[].taxAmount** field.

Available Fields

Request:

- orderInformation.amountDetails.taxAmount
- orderInformation.billTo.company.address1
- orderInformation.billTo.company.address2
- orderInformation.billTo.company.city
- orderInformation.billTo.company.country
- orderInformation.billTo.company.name
 - order Information. bill To. company. postal Code
- orderInformation.billTo.company.state
- orderInformation.billTo.firstName
- orderInformation.billTo.lastName
- orderInformation.invoiceDetails.purchaseOrderNumber
- orderInformation.invoiceDetails.referenceDataCode
- orderInformation.invoiceDetails.referenceDataNumber
- orderInformation.invoiceDetails.transactionAdviceAddendum[].data
- orderInformation.shippingDetails.shipFromAdministrativeArea
- orderInformation.shippingDetails.shipFromCountry
- orderInformation.shippingDetails.shipFromLocality
- orderInformation.shippingDetails.shipFromPostalCode
- orderInformation.shipTo.postalCode
- · processingInformation.purchaseLevel

Offer-level request fields:

- orderInformation.amountDetails.taxDetails[].rate
- orderInformation.lineItems[].exemptAmount
- orderInformation.lineItems[].invoiceNumber
- orderInformation.lineItems[].quantity
- orderInformation.lineItems[].referenceDataCode
- orderInformation.lineItems[].referenceDataNumber
- orderInformation.lineItems[].shipFromLocality
- orderInformation.lineItems[].taxAmount
- orderInformation.lineItems[].taxRate
- orderInformation.lineItems[].taxStatusIndicator

- orderInformation.lineItems[].unitOfMeasure
- orderInformation.lineItems[].unitPrice
- orderInformation.lineItems[].weight
- orderInformation.lineItems[].weightIdentifier
- orderInformation.lineItems[].weightUnit

Reference Information

The following reference information is included:

- Exemption Status Values
- Product Codes
- Reference Data Codes
- Units of Measurement Codes

Exemption Status Values

Status for exemption from sales and use tax. Use these values for the field on American Express Direct.

Value	Description
0	Exempt (for export)
1	Yes (tax exempt)
2	No (not tax exempt)
3	Exempt (for resale)
4	Not exempt (for resale
5	Exempt (not for resale)
6	Not exempt (not for resale)
7	Direct pay ID
8	Exempt (sale to US government)
9	Exempt (per state law)
A	Labor taxable, material exempt
В	Material taxable, labor exempt
С	Not taxable
D	Disabled
Е	Exempt toll service
F	Exempt (goods and services tax)
G	Exempt (provincial sales tax)
Н	Homestead

Value	Description
I	Agriculture
J	Working farm
K	Open space
L	Exempt local service
M	Disabled veteran
N	Non-homestead
0	Over 65
P	Exempt from school property tax
Q	Exempt from local property tax
R	Recurring exempt
S	Exempt from county property tax
Т	Total exempt
U	Usage exempt
V	Exempt from state property tax
W	Other property tax exemption
X	Exempt, letter on file

Product Codes

The following table lists the values you can use for the product code in the .

Table 1. Product Codes

Product Code	Definition
adult_content	Adult content.
coupon	Coupon applied to the entire order.
default	Default value for the product code. Cybersource uses default when a request message does not include a value for the product code.
electronic_good	Electronic product other than software.
electronic_software	Software distributed electronically rather than on disks or other media.
gift_certificate	Gift certificate.

Table 1. Product Codes (continued)

Product Code	Definition
handling_only	Fee that you charge your customer to cover your administrative selling costs.
service	Service that you perform for your customer.
shipping_and_handling	The shipping portion is the charge for shipping the product to your customer. The handling portion is the fee you charge your customer to cover your administrative selling costs.
shipping_only	Charge for transporting tangible personal property from your location to your customer. You must maintain documentation that clearly establishes the location where the title to the property passed from you to your customer.
subscription	Subscription to a website or other content.

Reference Data Codes

Use the following codes, which identify reference data, for the field on American Express Direct:

Value	Description
11	Account number (general ledger)
19	Division identifier
21	Tracking number
53	User location number (SWIFT MT 202)
ACE	Service request number
BP	Adjustment control number or purchasing organization part number
BT	Batch number
C1	Customer material specification number
CA	Cost allowance reference or cost center number
DP	Department number
ЕВ	Service agreement number
JB	Project number
K8	Project paragraph number
LC	Lease number
LG	Lease schedule number

Value	Description
LT	Lot number
MJ	Model number
MZ	Maintenance request number
PK	Packing list number
PT	Purchase option agreement
R8	Rental agreement number
RQ	Purchase requisition number
SE	Serial number
TN	Transaction reference number
WO	Work order number

Units of Measurement Codes

The following table lists the codes for units of measurement used in international trade.

Value	Description
EA	Unknown unit of measure
ACR	Acre (4840 yd ²)
АМН	Ampere-hour (3.6 kC)
AMP	Ampere
ANN	Year
APZ	Ounce GB, US (31.10348 g) (tr oz.)
ARE	Are (100 m ²)
ASM	Alcoholic strength mass
ASV	Alcoholic strength by volume
ATM	Standard atmosphere (101325 Pa)
ATT	Technical atmosphere (98066.5 Pa)
BAR	Bar
BFT	Board foot
BG	Unknown unit of measure
ВНР	Brake horsepower (745.7 W)

Value	Description
ВНХ	Hundred boxes
BIL	Billion Eur (trillion US)
BLD	Dry barrel (115.627 dm ³)
BLL	Barrel
BQL	Becquerel
BTU	British thermal unit (1.055 Kilojoules)
BUA	Bushel (35.2391 dm ³)
BUI	Bushel (36.36874 dm ³)
BX	Unknown unit of measure
С	Unknown unit of measure
CA	Unknown unit of measure
ССТ	Carrying capacity in metric tons
CD	Unknown unit of measure
CDL	Candela
CEL	Celsius degrees
CEN	Hundred
CGM	Centigram
CKG	Coulomb per kg
CLF	Hundred leaves
CLT	Centiliter
СМК	Square centimeter
СМТ	Centimeter
CNP	Hundred packs
CNT	Cental GB (45.359237 kg)
COU	Coulomb
CS	Unknown unit of measure
СТМ	Metric carat (200 Mg = 2.10-4 kg)
CUR	Curie
CWA	Hundredweight US (45.3592 kg)
D	Unknown unit of measure

Value	Description
DAA	Decare
DAD	Ten days
DAY	Day
DEC	Decade (10 years)
DLT	Deciliter
DMK	Square decimeter
DMQ	Cubic decimeter
DMT	Decimeter
DPC	Dozen pieces
DPT	Displacement tonnage
DRA	Dram US (3.887935 g)
DRI	Dram GB (1.771745 g)
DRL	Dozen rolls
DRM	Drachm gm (3.887935 g)
DTH	Hectokilogram
DTN	Centner / Quintal, metric (100 kg) (decitonne)
DWT	Pennyweight GB, US (1.555174 g)
DZ	Unknown unit of measure
DZN	Dozen
DZP	Dozen packs
DZR	Dozen pairs
EA	Unknown unit of measure
EAC	Each
FAH	Fahrenheit degrees
FAR	Farad
FOT	Foot (.3048 m)
FT	Unknown unit of measure
FTK	Square foot
FTQ	Cubic foot
G	Unknown unit of measure

Value	Description
GAL	Unknown unit of measure
GBQ	Gigabequerel
GFI	Gram of fissile isotopes
GGR	Great gross (12 gross)
GIA	Gill (11.8294 cm ³)
GII	Gill (0.142065 dm ³)
GLD	Dry gallon (4.404884 dm ³)
GLI	Gallon (4.546092 dm ³)
GLL	Liquid gallon (3.78541 dm ³)
GRM	Gram
GRN	Grain GB, US (64.798910 mg)
GRO	Gross
GRT	Gross (Register) ton
GWH	Gigawatt-hour (1 Million kWh
HAR	Hectare
НВА	Hectobar
HGM	Hectogram
HIU	Hundred international units
HLT	Hectoliter
HMQ	Million cubic meters
НМТ	Hectometer
НРА	Hectoliter of pure alcohol
HTZ	Hertz
HUR	Hour
INH	Inch (25.4 mm)
INK	Square inch
INQ	Cubic inch
ITM	Item
JOU	Joule
KBA	Kilobar

Value	Description
KEL	Kelvin
KGM	Kilogram
KGS	Kilogram per second
KHZ	Kilohertz
КЈО	Kilojoule
КМН	Kilometer per hour
КМК	Square kilometer
KMQ	Kilogram per cubic meter
КМТ	Kilometer
KNI	Kilogram of nitrogen
KNS	Kilogram of named substance
KNT	Knot (1 nautical mile per hour)
KPA	Kilopascal
КРН	Kilogram of caustic potash (kilogram of potassium hydroxide)
KPO	Kilogram of potassium oxide
KPP	Kilogram of phosphoric anhydride (kilogram of phosphoric pentoxide)
KSD	Kilogram of substance 90% dry
KSH	Kilogram of caustic soda
KTN	Kilotonne
KUR	Kilogram of uranium
KVA	Kilovolt-ampere
KVR	Kilovar
KVT	Kilovolt
KWH	Kilowatt-hour
KWT	Kilowatt
LBR	Pound GB, US (0.45359237 kg)
LBS	Unknown unit of measure
LBT	Troy pound, US (373.242 g)
LEF	Leaf
LPA	Liter of pure alcohol

Value	Description
LTN	Long ton GB, US (1.0160469 T)
LTR	Liter (1 dm ³)
LUM	Lumen
LUX	Lux
MAL	Megaliter
MAM	Megameter
MAW	Megawatt
MBE	Thousand standard brick equivalent
MBF	Thousand board-feet (2.36 m ³)
MBR	Millibar
MCU	Millicurie
MGM	Milligram
MHZ	Megahertz
MIK	Square mile
MIL	Thousand
MIN	Minute
MIO	Million
MIU	Million international units
MLD	Billion US (milliard)
MLT	Milliliter
ММК	Square millimeter
MMQ	Cubic millimeter
MMT	Millimeter
MON	Month
MPA	Megapascal
MQH	Cubic meter per hour
MQS	Cubic meter per second
MSK	Meter per second squared
МТК	Square meter
MTQ	Cubic meter

Value	Description
MTR	Meter
MTS	Meter per second
MVA	Megavolt-ampere (1000 kva)
MWH	Megawatt-hour (1000 kWh)
NAR	Number of articles
NBB	Number of bobbins
NCL	Number of cells
NEW	Newton
NIU	Number of international units
NMB	Number
NMI	Nautical mile (1852 m)
NMP	Number of packs
NMR	Number of pairs
NPL	Number of parcels
NPT	Number of parts
NRL	Number of rolls
NTT	Net (register) ton
ОНМ	Ohm
ONZ	Ounce GB, US (28.349523 g)
OZA	Fluid ounce (29.5735 cm ³)
OZI	Fluid ounce (28.413 cm ³)
PAL	Pascal
PCB	Piece
PCE	Unknown unit of measure
PER	Unknown unit of measure
PGL	Proof gallon
РК	Unknown unit of measure
PTD	Dry pint (0.55061 dm ³)
PTI	Pint (0.568262 dm ³)
PTL	Liquid pint (0.473176 dm ³)

Value	Description
QAN	Quarter (of a year)
QTD	Dry quart (1.101221 dm ³)
QTI	Quart (1.136523 dm ³)
QTL	Liquid quart (0.946353 dm ³)
QTR	Quarter, GB (12.700586 kg)
RL	Unknown unit of measure
RM	Unknown unit of measure
RPM	Revolution per minute
RPS	Revolution per second
SAN	Half year (6 months)
SCO	Score
SCR	Scruple GB, US (1.295982 g)
SEC	Second
SET	Set
SHT	Shipping ton
SIE	Siemens
SMI	(Statute) mile (1609.344 m)
SST	Short Standard (7200 matches)
ST	Unknown unit of measure
STI	Stone GB (6.350293 kg)
STN	Short ton GB, US (0.90718474 T)
ТАН	Thousand ampere-hour
TNE	Metric ton (1000 kg) (tonne (1000 kg))
TPR	Ten pairs
TQD	Thousand cubic meters per day
TRL	Trillion EUR
TSD	Tonne of substance 90% dry
TSH	Ton of steam per hour
VLT	Volt
WCD	Cord (3.63 m ³)

Value	Description
WEB	Weber
WEE	Week
WHR	Watt-hour
WSD	Standard
WTT	Watt
YDK	Square yard
YDQ	Cubic yard
YRD	Yard (0.9144 m)