

Step One

Three-Step: Transactions

Sale/Auth/Credit/Validate/Offline XML Request

XML Element	Description
<sale auth credit validate offline>	Type of transaction to perform.
api-key*	api-key is obtained in the security keys section of the control panel settings.
redirect-url*	A URL on your web server that the gateway will redirect your customer to after sensitive data collection.
amount*	Total amount to be charged (For "validate" actions, amount must be 0.00 or omitted).
authorization-code**	Specify authorization code. For use with "offline" action only.
ip-address	Cardholder's IP address. Format: xxx.xxx.xxx.xxx
industry	Specify industry classification of transaction. Values: 'ecommerce', 'moto', or 'retail'
billing-method	Set additional billing indicators. Values: 'recurring' or 'installment'
billing-number	Specify installment billing number, on supported processors. For use when "billing-method" is set to installment. Values: 0-99
billing-total	Specify installment billing total on supported processors. For use when "billing-method" is set to installment.
processor-id	If using multiple processors, route to specified processor. Obtained under Settings->Load Balancing in the merchant control panel.
sec-code	ACH standard entry class codes. Values: 'PPD', 'WEB', 'TEL', 'CCD', 'POP', or 'ARC'
descriptor	Set payment descriptor on supported processors.
descriptor-phone	Set payment descriptor phone on supported processors.
descriptor-address	Set payment descriptor address on supported processors.
descriptor-city	Set payment descriptor city on supported processors.

descriptor-state	Set payment descriptor state on supported processors.
descriptor-postal	Set payment descriptor postal code on supported processors.
descriptor-country	Set payment descriptor country on supported processors.
descriptor-mcc	Set payment descriptor mcc on supported processors.
descriptor-merchant-id	Set payment descriptor merchant id on supported processors.
descriptor-url	Set payment descriptor url on supported processors.
currency	Set transaction currency. Format: ISO 4217
order-description	Order description.
customer-id	Customer identification.
customer-vault-id	Load customer details from an existing customer vault record. If set, no payment information is required during step two.
merchant-receipt-email	Send merchant receipt to email
customer-receipt	Send receipt if billing email included. Values: 'true' or 'false'
merchant-defined-field-#	Merchant specified custom fields. Format: <merchant-defined-field-1>Value</merchant-defined-field-1>
tracking-number	Shipping tracking number.
shipping-carrier	Shipping carrier. Values: 'ups', 'fedex', 'dhl', or 'usps'
order-id ^{***}	Order id.
po-number ^{***}	Cardholder's purchase order number.
tax-amount ^{***}	The sales tax included in the transaction amount associated with the purchase. Setting tax equal to '-1' indicates an order that is exempt from sales tax. Default: '0.00' Format: x.xx
shipping-amount ^{***}	Total shipping amount.
ship-from-postal ^{****}	Postal/ZIP code of the address from where purchased goods are being shipped. Defaults to merchant profile postal code.

summary-commodity-code****	A code representing the type of commodity being purchased. The acquirer or processor will provide a list of current codes.
duty-amount	Amount included in the transaction amount associated with the import of the purchased goods. Default: '0.00'
discount-amount	Amount included in the transaction amount of any discount applied to the complete order by the merchant. Default: '0.00'
national-tax-amount	The national tax amount included in the transaction amount. Default: '0.00'
alternate-tax-amount	Second tax amount included in the transaction amount in countries where more than one type of tax can be applied to the purchases. Default: '0.00'
alternate-tax-id	Tax identification number of the merchant that reported the alternate tax amount.
vat-tax-amount	Contains the amount of any value added taxes which can be associated with the purchased item. Default: '0.00'
vat-tax-rate	Contains the tax rate used to calculate the sales tax amount appearing. Can contain up to 2 decimal places, ie 1% = 1.00. Default: '0.00'
vat-invoice-reference-number	Invoice number that is associated with the VAT invoice.
customer-vat-registration	Value added tax registration number supplied by the cardholder.
merchant-vat-registration	Government assigned tax identification number of the merchant from whom the goods or services were purchased.
order-date	Purchase order date. Defaults to the date of the transaction. Format: YYMMDD
cardholder-auth [†]	Set 3D Secure condition. Values: 'verified' or 'attempted'
eci [†]	E-commerce indicator. Values: '2', '5', or '7'
cavv [†]	Cardholder authentication verification value. Format: base64 encoded
xid [†]	Cardholder authentication transaction id. Format: base64 encoded

dup-seconds [‡]	Override duplicate transaction detection time in seconds.
avs-reject [‡]	The transaction is rejected if the address verification result is a code in this list. Values are letters obtained under Settings->Address Verification in the control panel. Format: x x x x...
cvv-reject [‡]	The transaction is rejected if the card ID verification result is a code in this list. Values are letters obtained under Settings->Card ID Verification in the control panel. Format: x x x x...
<billing>	The customer's billing information
billing-id	Specify billing id. Recommended when using customer vault hybrid action. Will be ignored if no hybrid add/update-customer is done.
first-name	Cardholder's first name.
last-name	Cardholder's last name.
address1	Cardholder's billing address.
city	Card billing city.
state	Card billing state/province. Format: CC
postal	Card billing postal code.
country	Card billing country code. Format: CC/ISO 3166
phone	Billing phone number.
email	Billing email address.
company	Cardholder's company.
address2	Card billing address, line 2.
fax	Billing fax number.
account-type [§]	The customer's ACH account type. Values: 'checking' or 'savings'
entity-type [§]	The customer's ACH account entity. Values: 'personal' or 'business'
</billing>	

<shipping>	The customer's shipping information.
shipping-id	Specify shipping id. Recommended when using customer vault hybrid action. Will be ignored if no hybrid add/update-customer is done.
first-name	Shipping first name.
last-name	Shipping last name.
address1	Shipping billing address.
city	Shipping city.
state	Shipping state/province. Format: CC
postal****	Shipping postal code.
country****	Shipping country code. Format: CC/ISO 3166
phone	Shipping phone number.
email	Shipping email address.
company	Shipping company.
address2	Shipping address, line 2.
fax	Shipping fax number.
</shipping>	
<product>	Product line item detail. Multiple product elements are allowed.
product-code****¶	Merchant defined description code of the item being purchased.
description****	Description of the item(s) being supplied.
commodity-code****	International description code of the individual good or service being supplied. The acquirer or processor will provide a list of current codes.
unit-of-measure****	Code for units of measurement as used in international trade. Default: 'EACH'
unit-cost****	Unit cost of item purchased. May contain up to 4 decimal places.
quantity****	Quantity of the item(s) being purchased. Default: '1'

total-amount****	Purchase amount associated with the item. Default to 'unit-cost' x 'quantity' rounded to the nearest penny.
tax-amount****	Amount of tax on specific item. Amount should not be included in item-total-amount. Default: '0.00'
tax-rate****	Percentage representing the value-added tax applied. 1% = 1.00. Default: '0.00'
discount-amount	Discount amount which can have been applied by the merchant on the sale of the specific item. Amount should not be included in 'item-total-amount'.
discount-rate	Discount rate for the line item. 1% = 1.00. Default: '0.00'
tax-type	Type of value-added taxes that are being used.
alternate-tax-id	Tax identification number of the merchant that reported the alternate tax amount.
</product>	
<add-subscription>	Perform a simultaneous 'hybrid' recurring action while processing a transaction.
start-date	The first day that the customer will be charged. Format: YYYYMMDD
<plan>	
plan-id	The unique plan ID that references only this recurring plan.
payments	The number of payments before the recurring plan is complete. Note: Use '0' for 'until canceled'
amount	The plan amount to be charged each billing cycle. Format: x.xx
day-frequency	How often, in days, to charge the customer. Cannot be set with 'month-frequency' or 'day-of-month'.
month-frequency	How often, in months, to charge the customer. Cannot be set with 'day-frequency'. Must be set with 'day-of-month'. Values: 1 through 24
day-of-month	The day that the customer will be charged. Cannot be set with 'day-frequency'. Must be set with 'month-frequency'. Values: 1 through 31 - for months without 29, 30, or 31 days, the charge will be on the last day
</plan>	
</add-subscription>	

<add-customer update-customer>	Perform a simultaneous 'hybrid' customer vault action while processing a transaction. This tag can be blank if submitting an 'add-customer' without specifying a 'customer-vault-id'.
customer-vault-id	Specify customer vault id. If omitted, will be auto-generated and returned in response. Required for 'update-customer'.
</add-customer update-customer>	
partial-payments ^{††}	Specify whether a partial amount or full amount of the transaction should be settled. Format: 'settle_partial' or 'payment_in_full'
partial-payment-id ^{††}	Specify a partial payment ID. Required to collect an additional amount associated with an existing Partial Payment Transaction. Do not use on initial transaction.
</sale auth credit validate offline>	

- * Always required
- ** Required for offline transactions
- *** Required for Level 2 and Level 3 transactions
- **** Required for Level 3 transactions
- † Required for 3D-Secure transactions
- ‡ Required for Override transactions
- †† Required for Partial Payment Transactions
- § Required for ACH transactions
- ¶ Required for Line Item Reporting

Sale/Auth/Credit/Validate/Offline XML Response

XML Element	Description
<response>	
result	1=Approved 2=Declined 3=Error in transaction data or system error
result-text	Textual response.
transaction-id	Payment Gateway transaction id.

result-code	Numeric mapping of processor responses (See Appendix 3).
form-url	URL used as the action of the HTML form in step two.
</response>	

Step Two

Three-Step: Transactions

HTML Form Fields Request

HTML Form Fields	Description
billing-cc-number*	Credit card number.
billing-cc-exp*	Credit card expiration. Format: MMY
billing-cvv	Card security code.
billing-account-name**	The name on the customer's ACH Account.
billing-account-number**	The customer's bank account number.
billing-routing-number**	The customer's bank routing number.
billing-account-type	The customer's ACH account type. Values: 'checking' or 'savings'
billing-entity-type	The customer's ACH account entity. Values: 'personal' or 'business'
billing-micr†	Physical check's Magnetic ink strip, on supported check processors. For use with 'POP' or 'ARC' sec-code.
billing-track-1***	Raw magnetic stripe data, track 1.
billing-track-2***	Raw magnetic stripe data, track 2.
billing-track-3***	Raw magnetic stripe data, track 3.
billing-magnesafe-track-1***	Raw MagTek Magensa encrypted reader data.
billing-magnesafe-track-2***	Raw MagTek Magensa encrypted reader data.

billing-magnesafe-track-3***	Raw MagTek Magensa encrypted reader data.
billing-magnesafe-ksn***	Raw MagTek Magensa encrypted reader data.
billing-magnesafe-magneprint***	Raw MagTek Magensa encrypted reader data.
billing-magnesafe-magneprint-status***	Raw MagTek Magensa encrypted reader data.
billing-social-security-number****	Customer's social security number, checked against bad check writers database if check verification is enabled.
billing-drivers-license-number****	Driver's license number, checked against bad check writers' database if check verification is enabled.
billing-drivers-license-dob****	Driver's license date of birth.
billing-drivers-license-state****	Customer's driver's license state. Format: CC
billing-first-name	Cardholder's first name. Overwrites value if passed during step one.
billing-last-name	Cardholder's last name. Overwrites value if passed during step one..
billing-address1	Cardholder's billing address. Overwrites value if passed during step one.
billing-city	Card billing city. Overwrites value if passed during step one.
billing-state	Card billing state/province. Overwrites value if passed during step one. Format: CC
billing-postal	Card billing postal code. Overwrites value if passed during step one.
billing-country	Card billing country code. Overwrites value if passed during step one. Format: CC/ISO 3166
billing-phone	Billing phone number. Overwrites value if passed during step one.
billing-email	Billing email address. Overwrites value if passed during step one.
billing-company	Cardholder's company. Overwrites value if passed during step one.
billing-address2	Card billing address, line 2. Overwrites value if passed during step one.
billing-fax	Billing fax number. Overwrites value if passed during step one.
shipping-first-name	Shipping first name. Overwrites value if passed during step one.
shipping-last-name	Shipping last name. Overwrites value if passed during step one.
shipping-address1	Shipping billing address. Overwrites value if passed during step one.

shipping-city	Shipping city. Overwrites value if passed during step one.
shipping-state	Shipping state/province. Overwrites value if passed during step one.
shipping-postal	Shipping postal code. Overwrites value if passed during step one.
shipping-country	Shipping country code. Overwrites value if passed during step one.
shipping-phone	Shipping phone number. Overwrites value if passed during step one.
shipping-email	Shipping email address. Overwrites value if passed during step one.
shipping-company	Shipping company. Overwrites value if passed during step one.
shipping-address2	Shipping address, line 2. Overwrites value if passed during step one.
shipping-fax	Shipping fax number. Overwrites value if passed during step one.

- * Required for keyed credit card transactions.
- ** Required for ACH transactions.
- *** Used for retail transactions. Variables used dependent on swipe device.
- **** Required for check verification.
- † Required for check scanning.

HTML Form Fields Response

Once the Payment Gateway has collected the customer's sensitive payment details, the customer's browser will immediately be redirected back to the **redirect-url** on your web server. A variable named **token-id** will be appended to the **redirect-url** in the GET query string as described below:

`https://redirect-url?token-id=[token]`

Step Three

Three-Step: Transactions

Complete Transaction XML Request

XML Element	Description
<complete-action>	
api-key*	api-key is obtained in the security keys section of the control panel settings.
token-id*	Customer payment token returned during step two.
</complete-action>	

* Required

Complete Transaction XML Response

XML Element	Description
<response>	
result	1=Transaction Approved 2=Transaction Declined 3=Error in transaction data or system error
result-text	Textual response.
transaction-id	Payment Gateway transaction ID
result-code	Numeric mapping of processor responses. (See Appendix 3)
authorization-code	Transaction authorization code.
avs-result	AVS response code. (See Appendix 1)
cvv-result	CVV response code. (See Appendix 2)
action-type	Action type that was initially specified. Values: 'sale', 'auth', 'credit', 'validate', or 'offline'
amount	Total amount charged. Format: x.xx
amount-authorized	Returns the amount authorized. Format: x.xx
ip-address	Cardholder's IP address. Format: xxx.xxx.xxx.xxx

industry	Industry classification of transaction. Values: 'ecommerce', 'moto', or 'retail'
billing-method	Billing indicators used. Values: 'recurring' or 'installment'
processor-id	Processor transaction was made through.
sec-code	ACH standard entry class codes. Values: 'PPD', 'WEB', 'TEL', 'CCD', 'POP', or 'ARC'
descriptor	Payment descriptor.
descriptor-phone	Payment descriptor phone.
descriptor-address	Set payment descriptor address on supported processors.
descriptor-city	Set payment descriptor city on supported processors.
descriptor-state	Set payment descriptor state on supported processors.
descriptor-postal	Set payment descriptor postal code on supported processors.
descriptor-country	Set payment descriptor country on supported processors.
descriptor-mcc	Set payment descriptor mcc on supported processors.
descriptor-merchant-id	Set payment descriptor merchant id on supported processors.
descriptor-url	Set payment descriptor url on supported processors.
currency	Transaction currency used. (Table 1.b)
order-description	Order description.
customer-id	Customer identification.
customer-vault-id	Customer vault id used or created during action.
merchant-receipt-email	Merchant receipt email.
customer-receipt	Customer email receipt sent. Values: 'true' or 'false'
partial-payment-balance	Returns the payment's remaining balance.
partial-payment-id	Numeric identifier used to submit subsequent partial payment transactions.
merchant-defined-field-#	Merchant specified custom fields. Format: <merchant-defined-field-1>Value</merchant-defined-field-1>

tracking-number	Shipping tracking number.
shipping-carrier	Shipping carrier. Values: 'ups', 'fedex', 'dhl', or 'usps'
order-id	Order id.
po-number	Cardholder's purchase order number.
tax-amount	The sales tax included in the transaction amount associated with the purchase. Format: x.xx
shipping-amount	Total shipping amount. Format: x.xx
ship-from-postal	Postal/ZIP code of the address from where purchased goods are being shipped.
summary-commodity-code	A code representing the type of commodity being purchased. The acquirer or processor will provide a list of current codes.
duty-amount	Amount included in the transaction amount associated with the import of the purchased goods. Format: x.xx
discount-amount	Amount included in the transaction amount of any discount applied to the complete order by the merchant. Format: x.xx
national-tax-amount	The national tax amount included in the transaction amount. Format: x.xx
alternate-tax-amount	Second tax amount included in the transaction amount in countries where more than one type of tax can be applied to the purchases. Default: '0.00' Format: x.xx
alternate-tax-id	Tax identification number of the merchant that reported the alternate tax amount.
vat-tax-amount	Contains the amount of any value added taxes which can be associated with the purchased item. Format: x.xx
vat-tax-rate	Contains the tax rate used to calculate the sales tax amount appearing. Can contain up to 2 decimal places, ie 1% = 1.00. Format: x.xx
vat-invoice-reference-number	Invoice number that is associated with the VAT invoice.
customer-vat-registration	Value added tax registration number supplied by the cardholder.
merchant-vat-registration	Government assigned tax identification number of the merchant from whom the goods or services were purchased.

order-date	Purchase order date. Format: YYYYMMDD
cardholder-auth	3D Secure condition. Values: 'verified' or 'attempted'
eci	E-commerce indicator. Values: '2', '5', or '7'
cavv	Cardholder authentication verification value. Format: base64 encoded
xid	Cardholder authentication transaction id. Format: base64 encoded
dup-seconds	Override duplicate transaction detection checking in seconds.
avs-reject	Values are letters obtained under Settings->Address Verification in the control panel.
cvv-reject	Values are letters obtained under Settings->Card ID Verification in the control panel.
<billing>	The customer's billing information
billing-id	Billing id used or created for this action.
first-name	Cardholder's first name.
last-name	Cardholder's last name.
address1	Cardholder's billing address.
city	Card billing city.
state	Card billing state/province. Format: CC
postal	Card billing postal code.
country	Card billing country code. Format: CC/ISO 3166
phone	Billing phone number.
email	Billing email address.
company	Cardholder's company.
address2	Card billing address, line 2.
fax	Billing fax number.

social-security-number	Customer's social security number
drivers-license-number	Driver's license number.
drivers-license-dob	Driver's license date of birth.
drivers-license-state	Customer's driver's license state. Format: CC
cc-number	Masked credit card number. Format: XXXXXX*****XXXX
cc-exp	Credit card expiration Format: MMY
account-name	The name on the customer's bank account.
account-number	Masked bank account number. Format: X***XXXX
routing-number	Masked bank routing number. Format: X***XXXX
account-type	The customer's ACH account type. Values: 'checking' or 'savings'
entity-type	The customer's ACH account entity. Values: 'personal' or 'business'
priority	Billing id priority. Format: Numeric, 1-255
</billing>	
<shipping>	
shipping-id	The customer's shipping information.
shipping-id	Shipping id used or created for this action. Recommended when using customer vault hybrid action; will be ignored if no hybrid add/update-customer is done.
first-name	Shipping first name.
last-name	Shipping last name.
address1	Shipping billing address.
city	Shipping city.
state	Shipping state/province. Format: CC

postal	Shipping postal code.
country	Shipping country code. Format: CC/ISO 3166
phone	Shipping phone number.
email	Shipping email address.
company	Shipping company.
address2	Shipping address, line 2.
fax	Shipping fax number.
priority	Shipping id priority. Format: Numeric, 1-255
</shipping>	
<product>	Product line item detail. Multiple product elements are allowed.
product-code	Merchant defined description code of the item being purchased.
description	Description of the item(s) being supplied.
commodity-code	International description code of the individual good or service being supplied. The acquirer or processor will provide a list of current codes.
unit-of-measure	Code for unites of measurement as used in international trade.
unit-cost	Unit cost of item purchased. May contain up to 4 decimal places.
quantity	Quantity of the item(s) being purchased.
total-amount	Purchase amount associated with the item. Format: x.xx
tax-amount	Amount of tax on specific item. Amount should not be included in item-total-amount. Format: x.xx
tax-rate	Percentage representing the value-added tax applied. 1% = 1.00. Format: x.xx
discount-amount	Discount amount which can have been applied by the merchant on the sale of the specific item. Format: x.xx
discount-rate	Discount rate for the line item. 1% = 1.00 Format: x.xx

tax-type	Type of value-added taxes that are being used.
alternate-tax-id	Tax identification number of the merchant that reported the alternate tax amount.
</product>	
</response>	

Additional Operations

Three-Step: Transactions

Capture XML Request

Element	Description
<capture>	
api-key*	api-key is obtained in the security keys section of the control panel settings.
transaction-id*	Original Payment Gateway transaction id.
amount	Total amount to be settled, this amount may be equal to or less than the authorized amount.
merchant-defined-field-#	Merchant specified custom fields. Format: <merchant-defined-field-1>Value</merchant-defined-field-1>
tracking-number	Shipping tracking number.
shipping-carrier	Shipping carrier used. Values: 'ups', 'fedex', 'dhl', or 'usps'
order-id	Order ID.
</capture>	

* Required

Void XML Request

Element	Description
<void>	

api-key*	api-key is obtained in the security keys section of the control panel settings.
transaction-id*	Original Payment Gateway transaction id.
merchant-defined-field-#	Merchant specified custom fields. Format: <merchant-defined-field-1>Value</merchant-defined-field-1>
</void>	

* Required

Refund XML Request

Element	Description
<refund>	
api-key*	api-key is obtained in the security keys section of the control panel settings.
transaction-id*	Original Payment Gateway transaction id.
amount	Total amount to be settled, this amount may be equal to or less than the authorized amount.
merchant-defined-field-#	Merchant specified custom fields. Format: <merchant-defined-field-1>Value</merchant-defined-field-1>
</refund>	

* Required

Update XML Request

Element	Description
<update>	
api-key*	api-key is obtained in the security keys section of the control panel settings.
transaction-id*	Original Payment Gateway transaction id.
merchant-defined-field-#	Merchant specified custom fields. Format: <merchant-defined-field-1>Value</merchant-defined-field-1>
tracking-number	Shipping tracking number.
shipping-carrier	Shipping carrier used. Values: 'ups', 'fedex', 'dhl', or 'usps'

order-id	Order ID.
</update>	

* Required

Complete Partial Payment XML Request

Element	Description
<complete-partial-payment>	
api-key*	api-key is obtained in the security keys section of the control panel settings.
partial-payment-id*	Specify a partial payment ID. Required to collect an additional amount associated with an existing Partial Payment Transaction. Do not use on initial transaction.
</complete-partial-payment>	

* Required