Credit Card Services

REST API

FDMS South

Developer Guide

cybersource
A Visa Solution

Version: 21.08

Contents

Recent Revisions to This Document

21.08

Added REST API information.

21.07

This revision contains only editorial changes and no technical updates.

21.06

API Fields

Moved the API field descriptions to the new *API Field Reference Guide*. See the API Field Reference for the REST API.

Visa Checkout

Changed to *Visa Checkout* to *Visa Click to Pay*.

Visa Secure Remote Commerce

Removed this section.

21.05

API Fields

Updated the descriptions for the **processorInformation.merchantAdvice.code** and **processorInformation.merchantAdvice.codeRaw** fields. For details about these fields, see the API Field Reference for the REST API.

Masterpass

Removed support for Masterpass.

21.04

Payment Network Tokens

Added the **tokenInformation.networkTokenOption** request field.

Added payment network token values to the **processingInformation.paymentSolution** field. This field is now a request field and response field.

For details about these fields, see the API Field Reference for the REST API.

21.03

This revision contains only editorial changes and no technical updates.

About This Guide

This section provides you with information about the REST API credit card services for FDMS South.

Audience and Purpose

This guide is written for application developers who want to use the REST API to integrate payment card processing into an order management system.

Implementing the credit card services requires software development skills. You must write code that uses the API request and response fields to integrate the credit card services into your existing order management system.

Conventions

The following special statements are used in this document:

> (!) **Important:** An *Important* statement contains information essential to successfully completing a task or learning a concept.

> ⚠️ **Warning:** A *Warning* contains information or instructions, which, if not heeded, can result in a security risk, irreversible loss of data, or significant cost in time or revenue or both.

Related Documentation

Refer to the Support Center for complete technical documentation:

https://www.cybersource.com/en-us/support/technical-documentation.html

Customer Support

For support information about any service, visit the Support Center:

http://www.cybersource.com/support

Introduction to the Credit Card Services

In this document, the word *processor* can refer to processors, acquirers, or acquiring processors depending on your location.

Requirements for Processing Payments

Payment processors connect with acquiring banks. Before you can accept payments, you must register with a payment processor. Your acquiring bank might require you to use a payment processor with which the bank has a business relationship.

Your processor provides you with unique identification numbers for your account. You must provide these identification numbers to customer support.

Cards and Payment Methods

The credit card services can be used to process the following types of cards and payment methods:

- Credit cards—payments made with numerous types of credit cards can be accepted, including Visa®, Mastercard®, American Express®, Discover®, Diners Club®, and JCB®.

- Private label cards—a *private label card* is a payment card that is issued by a private company and that can be used only at the issuing company's stores. If you are interested in processing transactions for your company's private label card, contact your account representative for information.

- Debit cards and prepaid cards—prepaid cards, Visa-branded debit cards, and Mastercard-branded debit cards can be processed with the credit card services.

- Quasi-cash—a quasi-cash transaction is a cash-like transaction for the sale of items that are directly convertible to cash.

Debit Cards

Services that you can use to process debit cards are:

- Credit card services—you can use credit card services to process payments with prepaid cards, Visa-branded debit cards, and Mastercard-branded debit cards.

- PIN debit services—you can use PIN debit services to process payments if your processor supports PIN debit transactions.

Discover Acquisitions and Alliances

The following card types are processed on the Discover Network:

- China UnionPay

- Diners Club

- Discover

- JCB (US Domestic)

  For JCB cards, *US Domestic* means that the currency is USD and your location is the U.S., Puerto Rico, Guam, U.S. Virgin Islands, or Northern Mariana Islands.

Non-U.S. JCB transactions are routed through JCB.

Your processor takes care of routing your transactions; you do not need to do any additional processing to route these card types to the Discover Network.

Types of Transactions

This topic provides information about the following types of transactions:

Card-Present Transactions

When a customer uses a card that is physically present to make a purchase, the purchase is known as a *card-present transaction*. This type of transaction typically occurs in a retail environment. To process card-present transactions, request the credit card services described in this guide and include card-present data in the requests.

Card-Not-Present Transactions

When a customer provides a card number but you do not have access to the physical card, the purchase is known as a *card-not-present transaction*. This type of transaction typically occurs over the Internet or through a call center. To process card-not-present transactions, use the credit card services described in this guide.

Card-not-present transactions pose an additional level of risk to your business because you cannot directly verify the customer's identification.

Features, such as Address Verification System (AVS) and Card Verification Numbers (CVNs), are supported for the credit card services and can reduce that risk by verifying the customer's information and notifying you when discrepancies occur.

International Transactions

Compliance

Accepting payments from a country other than your own requires that you observe the processing rules and practices of the payment systems in that country. The following list describes areas of compliance that are especially important.

- Merchant descriptor requirements—A merchant descriptor communicates merchant information to customers to remind them of the circumstances that triggered a payment. Merchant descriptors reduce the possibility of a chargeback. Accordingly, the merchant descriptor displayed on a customer's statement should be a close match to the name on your website. It is not good practice to consolidate multiple websites into a single merchant account and use a generic descriptor that more-or-less covers all offerings.

- Excessive chargebacks—To prevent an excessive number of chargebacks, you must maintain good customer support, rapid problem resolution, a high level of customer satisfaction, and transaction management processes that minimize fraudulent transactions. When payment card chargebacks become excessive, you must change business processes to reduce chargebacks. If chargebacks are not reduced to a satisfactory level, your account can be terminated.

Merchant Remittance Funding

In conjunction with processing international transactions, you can request that transaction proceeds be converted to a currency other than the currency in which the transaction took place for funding into an operating account. Currency conversion uses a foreign exchange rate to calculate how much the transaction currency is worth in terms of the funding currency. The foreign exchange rate might be explicitly stated as a rate or implicitly stated as a transaction amount. The funded amount and can vary from day to day. The foreign exchange rate might also include a mark-up for the foreign exchange risk, sales commissions, and handling costs.

Banks and Associations

This topic includes information about the following banks and associations:

- Acquiring (Merchant) Banks (on page 13)

- Issuing (Consumer) Banks (on page 14)

- Payment Card Companies (on page 14)

In this document, the word *processor* can refer to a processor, acquirer, or acquiring processor depending on your location.

Acquiring (Merchant) Banks

An acquiring, or merchant, bank offers accounts to businesses that accept payment cards. Before you can accept payments, you must have a merchant bank account from an acquiring bank. Your merchant bank account must be configured to process card-not-present or mail order/telephone order (MOTO) transactions.

Each acquiring bank has connections to a limited number of payment processors. You must choose a payment processor that your acquiring bank supports.

Expect to be charged the following fees:

- Discount rates—your acquiring bank charges a fee and collects a percentage of every transaction. The combination of the fee and the percentage is called the discount rate. These charges can be *bundled* (combined into a single charge) or *unbundled* (charged separately) depending on your acquiring bank and other factors.

- Interchange fees—Visa and Mastercard each have a base fee, called the interchange fee, for each type of transaction. Your acquiring bank and processor can explain how to minimize this fee.

- Chargebacks—when customers dispute charges to their accounts, you can incur chargebacks. A chargeback occurs when a charge on a customer's account is reversed. Your merchant bank removes the money from your account and could charge you a fee for the chargeback.

You are responsible for maintaining:

- Good customer support

- Rapid problem resolution

- A high level of customer satisfaction

- Transaction management processes that minimize fraudulent transactions

The items in the preceding list are required to prevent an excessive number of credit card chargebacks. When credit card chargebacks become excessive, you can be required to undertake business process changes to reduce chargebacks. If the chargebacks are not reduced to a satisfactory level, your account can be terminated.

If you receive a large number of chargebacks or if a large number of your transactions involve fraud, your acquiring bank might increase your discount rate or revoke your merchant bank account. Contact your sales representative for information about products that can help prevent fraud.

Issuing (Consumer) Banks

An issuing, or consumer, bank provides payment cards to and underwrites lines of credit for consumers. The issuing bank provides monthly statements and collects payments. Issuing banks must follow the rules of the payment card companies to which they belong.

Payment Card Companies

Payment card companies manage communications between acquiring banks and issuing banks. They also develop industry standards, support their brands, and establish fees for acquiring banks.

Some payment card companies, such as Visa and Mastercard, are trade associations that do not issue cards. Instead, issuing banks are members of these associations and they issue cards under license from the associations.

Other card companies, such as Discover and American Express, act as the issuing banks for their own cards. Before you process cards from these companies, you must sign agreements with the companies.

Supported Card Types

The following table lists the card types that are supported for the credit card services.

> ⚠ **Important:** Only the card types explicitly listed here are supported.

Supported Card Types

Payment Processor	Supported Card Types and Note
FDMS South	Visa, Mastercard, American Express, Discover, Diners Club, Carte Blanche, JCB

Supported Card Types (continued)

Payment Processor	Supported Card Types and Note
	⚠️ **Important:** FDMS South does not accept authorization requests. If FDMS South is your processor, you need to either update or migrate your account depending on your settlement currency. If you settle transactions in CAD, you must do the following: • Contact customer support to have your account configured to send authorization requests to a third party who will forward the requests to FDMS South on your behalf. • Contact First Data to have your First Data account updated. If you settle transactions in USD, it is recommended that you change your processor to FDC Nashville Global, FDMS Nashville, or FDC Compass.

Order Tracking

Use request IDs and reconciliation IDs to track your orders.

Reconciliation IDs

For each of the following services, the reconciliation ID is returned in the specified field in a response message:

- Authorization—**reconciliationId**

- Capture—**reconciliationId**

  The transaction reference number is returned for all processors except JCN Gateway.

  When you perform multiple partial captures for an authorization, each response includes a different reconciliation ID for each capture request.

- Credit—**reconciliationId**

  The reconciliation ID is returned for all processors except JCN Gateway.

Related information
  Getting Started for the REST API

Payment Card Processing

This section describes the services for processing payment card transactions.

Authorizations

Authorizations are supported for all processors and acquirers.

Processor-Specific Information

This section provides processor-specific information about authorizations and captures.

Processor-Specific Information About Authorizations and Captures

Payment Processor	Authorization and Capture Information
FDMS South	For the Indonesian rupiah (IDR) and Chilean peso (CLP) currencies only: • Rounding occurs, which can cause a minor discrepancy that consists of a maximum of one currency unit between the amount you requested and the amount that is authorized. • When a transaction is enabled for partial authorization, you must ensure that the requested amount does not include any digits to the right of the decimal separator.

Workflow for an Online Authorization

An *authorization* is confirmation that a payment card account includes enough funds to pay for a purchase. An *online authorization* is an authorization request for which you receive an immediate confirmation about the availability of funds. When funds are available, the issuing bank reduces the amount of credit available in the customer's account. Authorizations for most payment cards are processed online. For an online authorization for a card-not-present order, you typically start fulfilling the order when you receive confirmation that funds are available.

Online authorizations expire with the issuing bank after a specific length of time if they have not been captured and settled. Most authorizations expire within five to seven days. The issuing bank sets the length of time. Cybersource is not informed by the issuing bank when an authorization

expires. By default, the authorization remains in the Cybersource database for 60 days after the authorization date, even after it expires with the issuing bank. To capture an authorization that has expired with the issuing bank, your bank or processor might require you to resubmit the authorization request and include a request for capture in the same message.

The following figure shows the steps that occur when you request an online payment card authorization.

Processing an Online Authorization
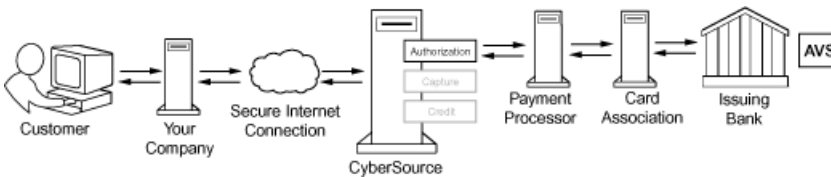
1. The customer places an order and provides the payment card number, card expiration date, and additional information about the card.

2. You send an authorization request to Cybersource over a secure Internet connection.

   When the customer buys a digitally delivered product or service, you can request the authorization and the capture at the same time. When the customer buys a physically fulfilled product, do not request the capture until you ship the product.

3. Cybersource validates the order information and sends the authorization request to your payment processor.

4. The processor sends the transaction information to the payment card company, which routes it to the bank that issued the customer's payment card. Some card companies, including Discover and American Express, act as their own issuing banks.

5. The issuing bank approves or declines the authorization request.

   Depending on the processor and card type, the issuing bank can use AVS to confirm the billing address and CVN to verify that the customer has possession of the card.

   For debit cards and prepaid cards, the issuing bank can approve a partial amount if the balance on the card is less than the requested authorization amount and if the transaction is enabled for partial authorization.

   For a limited number of processors and card types, partial authorizations and balance responses are supported for credit cards in addition to debit cards and prepaid cards.

6. The decision about the authorization request is sent from the issuing bank through the payment card company and payment processor to Cybersource.

7. Cybersource runs its own tests and sends you a response message that indicates whether the authorization succeeded.

Related information

Offline Authorizations

An *authorization* is confirmation that a payment card account includes enough funds to pay for a purchase. An *offline authorization* is an authorization request for which you do not receive an immediate confirmation about the availability of funds. You do not know whether the funds are available until you capture the order and receive confirmation of payment. For an offline authorization for a card-not-present order, you typically start fulfilling the order when you receive payment confirmation. For offline payment cards, it usually takes five days longer to receive payment confirmation than for online cards.

Required Fields for an Authorization

The following fields are required in a request for an authorization:

clientReferenceInformation.code

orderInformation.amountDetails.currency

orderInformation.amountDetails.totalAmount

> Either **orderInformation.amountDetails.totalAmount** or **orderInformation.lineItems[]** and **orderInformation.lineItems[].unitPrice** must be included in the request.

orderInformation.billTo.address1

> Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.administrativeArea

> Required when the billing country is the U.S. or Canada except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.country

> Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.email

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.firstName

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.lastName

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.locality

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.postalCode

Required when the billing country is the U.S. or Canada except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.lineItems[].productName

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.lineItems[].productSku

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.lineItems[].quantity

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.shipTo.address1

Required when any shipping address information is included in the request. Otherwise, this field is optional.

orderInformation.shipTo.administrativeArea

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

orderInformation.shipTo.country

Required when any shipping address information is included in the request. Otherwise, this field is optional.

orderInformation.shipTo.locality

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

orderInformation.shipTo.postalCode

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

paymentInformation.card.expirationMonth

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

paymentInformation.card.expirationYear

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

paymentInformation.card.number

paymentInformation.card.type

Required on Visa Platform Connect for all card types. On other processors, required for certain card types. It is strongly recommended that you send the card type even if it is optional for your processor. Omitting the card type can cause the transaction to be processed with the wrong card type.

processingInformation.commerceIndicator

Required for requests that include payer authentication data. Otherwise, this field optional.

Authorizing a Payment

Do not include any of these services in the request:

- Full authorization reversal

- Credit

- Risk update

- Services for other payment methods

To authorize a payment:

1. Send the service request to https://api.cybersource.com/pts/v2/payments.

2. Include the required fields in the request.

3. Include optional fields in the request as needed.

4. Check the response message to make sure that the request was successful. A 200-level HTTP response code indicates success. For information about response codes, see Transaction Response Codes.

Example: Authorization

Request

```json
{
    "clientReferenceInformation": {
        "code": "482046C3A7E94F5BD1FE3C66C"
    },
    "paymentInformation": {
        "card": {
            "number": "4111111111111111",
            "expirationMonth": "12",
            "expirationYear": "2031",
            "type": "001",
            "securityCode": "999" <!-- Required only for Visa Platform Connect. -->
        }
    },
    "orderInformation": {
        "amountDetails": {
            "totalAmount": "49.95",
            "currency": "USD"
        },
        "lineItems": [{
            "quantity": "1",
            "unitPrice": "49.95",
            "totalAmount": "49.95",
            "amountIncludesTax": "false",
            "discountApplied": "false"
        }],
        "billTo": {
            "firstName": "John",
            "lastName": "Doe",
            "address1": "1295 Charleston Rd.",
            "locality": "Mountain View",
            "administrativeArea": "CA",
            "postalCode": "94043",
            "country": "US",
            "email": "jdoe@example.com",
            "phoneNumber": "650-965-6000"
        }
    }
}
```

Response

Most processors do not return all the fields in this example.

```json
{
    "_links": {
        "authReversal": {
            "method": "POST",
            "href": "/pts/v2/payments/6262667483236171303005/reversals"
        },
        "self": {
            "method": "GET",
            "href": "/pts/v2/payments/6262667483236171303005"
        },
        "capture": {
            "method": "POST",
            "href": "/pts/v2/payments/6262667483236171303005/captures"
        }
    },
    "clientReferenceInformation": {
        "code": "482046C3A7E94F5BD1FE3C66C"
    },
    "id": "6262667483236171303005",
    "orderInformation": {
        "amountDetails": {
            "authorizedAmount": "49.95",
            "currency": "USD"
        }
    },
    "paymentAccountInformation": {
        "card": {
            "type": "001"
        }
    },
    "paymentInformation": {
        "tokenizedCard": {
            "type": "001"
        },
        "card": {
            "type": "001"
        }
    },
    "pointOfSaleInformation": {
        "terminalId": "111111"
    },
    "processorInformation": {
        "approvalCode": "888888",
        "networkTransactionId": "123456789619999",
```

```
        "transactionId": "123456789619999",
        "responseCode": "A",
        "avs": {
            "code": "Y",
            "codeRaw": "YYY"
        }
    },
    "reconciliationId": "72242417DR0JSAV0",
    "status": "AUTHORIZED",
    "submitTimeUtc": "2021-07-14T12:45:48Z"
}
```

Authorization Reversals

This section describes authorization reversals.

Processor-Specific Information

This section provides processor-specific information about authorization reversals.

Processor-Specific Information About Authorization Reversals

Payment Processor	Authorization Reversal Information
FDMS South	Card types supported for full authorization reversals: Visa, Mastercard, Discover, and JCB (US Domestic). For JCB cards, *US Domestic* means that the currency is USD and your location is the U.S., Puerto Rico, Guam, U.S. Virgin Islands, or Northern Mariana Islands. Full authorization reversals are supported only for transactions that do not go through a currency conversion. Full authorization reversals are supported for the following types of merchants and currencies: • Merchants located in the U.S. who authorize, settle, and fund in U.S. dollars. • Merchants located in Canada who authorize, settle, and fund in Canadian dollars. • Merchants located in Latin America or the Caribbean who authorize, settle, and fund in U.S. dollars.

Processor-Specific Information About Authorization Reversals (continued)

Payment Processor	Authorization Reversal Information
	• Merchants located in Europe who authorize, settle, and fund in the currency for the country in which the merchant is located.

Overview

The full authorization reversal service releases the hold that the authorization placed on the customer's payment card funds. Use this service to reverse an unnecessary or undesired authorization.

Each issuing bank has its own rules for deciding whether a full authorization reversal succeeds or fails. When a reversal fails, contact the issuing bank to learn whether it is possible to reverse the authorization by alternate means.

If your processor supports authorization reversal after void (ARAV), you can reverse an authorization after you void the associated capture. If your processor does not support ARAV, you can use the full authorization reversal service only for an authorization that has not been captured and settled.

A full authorization reversal is a follow-on transaction that uses the request ID returned from an authorization. The main purpose of a follow-on transaction is to link two transactions. The request ID links the follow-on transaction to the original transaction. The authorization request ID is used to look up the customer's billing and account information in the Cybersource database, so you are not required to include those fields in the full authorization reversal request. The original transaction and follow-on transaction are linked in the database and in the Business Center.

For processors that support debit cards and prepaid cards, the full authorization reversal service works for debit cards and prepaid cards in addition to credit cards.

Related information

> API Field Reference
>
> Authorization Reversal after Void (ARAV) *(on page 55)*
>
> Required Features for Credit Card Processing *(on page 54)*

Required Fields for an Authorization Reversal

The following fields are required in a request for an authorization reversal:

id

Set the **id** URL parameter to the request ID that was included in the authorization response message.

clientReferenceInformation.code

orderInformation.amountDetails.currency

orderInformation.amountDetails.totalAmount

Either **orderInformation.amountDetails.totalAmount** or **orderInformation.lineItems[].unitPrice** must be included in the request.

The amount of the reversal must be the same as the amount that was authorized:

- You cannot partially reverse an authorization; you can reverse an authorization only for its full amount.

- When you use a debit card or prepaid card and only a partial amount was approved, the amount of the reversal must be the amount that was authorized, not the amount that was requested.

Reversing an Authorization

To reverse an authorization:

1. Send the service request to https://api.cybersource.com/pts/v2/payments/{id}/reversals.

2. Include the required fields in the request.

3. Include optional fields in the request as needed.

4. Check the response message to make sure that the request was successful. A 200-level HTTP response code indicates success. For information about response codes, see Transaction Response Codes.

Example: Authorization Reversal

Request

```
{
  "clientReferenceInformation": {
    "code": "482046C3A7E94F5BD1FE3C66C"
  },
  "reversalInformation": {
    "amountDetails": {
      "totalAmount": "49.95",
      "currency": "USD"
    },
```

```
      "reason": "testing"
  }
}
```

Response

```
{
    "_links" : {
        "void" : {
            "method" : "POST",
            "href" : "/pts/v2/credits/1019827520348290570293/voids"
        },
        "self" : {
            "method" : "GET",
            "href" : "/pts/v2/credits/1019827520348290570293"
        }
    },
    "clientReferenceInformation": {
        "code": "482046C3A7E94F5BD1FE3C66C"
    },
    "id": "1019827520348290570293",
    "creditAmountDetails" : {
        "currency" : "USD",
        "creditAmount" : "49.95"
    },
    "orderInformation": {
        "amountDetails": {
            "totalAmount": "49.95",
            "currency": "USD"
        }
    },
    "reconciliationId": "02850840187309570",
    "status" : "REVERSED",
    "submitTimeUtc" : "2021-07-20T21:06:59Z"
}
```

Captures

Captures are supported for all processors and acquirers.

Processor-Specific Information

This section provides processor-specific information about authorizations and captures.

Processor-Specific Information About Authorizations and Captures

Payment Processor	Authorization and Capture Information
FDMS South	For the Indonesian rupiah (IDR) and Chilean peso (CLP) currencies only: • Rounding occurs, which can cause a minor discrepancy that consists of a maximum of one currency unit between the amount you requested and the amount that is authorized. • When a transaction is enabled for partial authorization, you must ensure that the requested amount does not include any digits to the right of the decimal separator.

Overview

When you are ready to fulfill a customer's order and transfer funds from the customer's bank to your bank, capture the authorization for that order.

When fulfilling only part of a customer's order, do not capture the full amount of the authorization. Capture only the cost of the items that you ship. When you ship the remaining items, request a new authorization, and then capture the new authorization.

A capture is a follow-on transaction that uses the request ID returned from an authorization. The main purpose of a follow-on transaction is to link two transactions. The request ID links the follow-on transaction to the original transaction. The authorization request ID is used to look up the customer's billing and account information in the Cybersource database, so you are not required to include those fields in the capture request. The original transaction and follow-on transaction are linked in the database and in the Business Center.

Related information

Workflow

Unlike authorizations, a capture does not happen in real time. All of the capture requests for a day are placed in a batch file and sent to the processor. In most cases, the batch is settled at night. It usually takes two to four days for your acquiring bank to deposit funds into your merchant bank account.

The following figure shows the steps that occur when you request a capture.

Processing a Capture
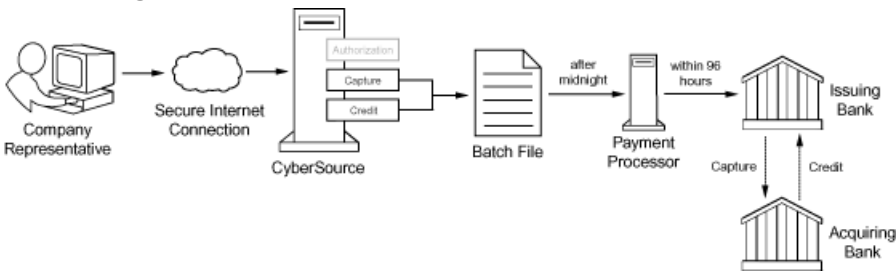
1. You send a request for capture over a secure Internet connection.

2. Cybersource validates the order information then stores the capture request in a batch file.

3. After midnight, Cybersource sends the batch file to your payment processor.

4. The processor settles the capture request by transferring funds from the customer's bank account to your bank account.

   The processor does not notify Cybersource when a transaction is declined. To ensure that all captures are processed, reconcile your system's reports with the reports from your processor.

Due to the potential delay between authorization and capture, the authorization might expire with the issuing bank before you request capture. Most authorizations expire within five to seven days. If an authorization expires with the issuing bank before you request the capture, your bank or processor might require you to resubmit an authorization request and include a request for capture in the same message.

Cybersource is not informed by the issuing bank when an authorization expires. By default, the authorization remains in the Cybersource database for 60 days after the authorization date, even after it expires with the issuing bank.

Required Fields for a Capture

The following fields are required in a request for a capture:

clientReferenceInformation.code

id

Set the **id** URL parameter to the request ID that was included in the authorization response message. Do not include this value when the authorization and capture requests are bundled.

orderInformation.amountDetails.currency

orderInformation.amountDetails.totalAmount

Either **orderInformation.amountDetails.totalAmount** or **orderInformation.lineItems[]** and **orderInformation.lineItems[].unitPrice** must be included in the request.

orderInformation.lineItems[].productName

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.lineItems[].productSku

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.lineItems[].quantity

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.shipTo.country

Required when any shipping address information is included in the request. Otherwise, this field is optional.

orderInformation.shipTo.postalCode

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

Capturing an Authorization

Do not include any of these services in the request:

- Full authorization reversal

- Credit

- Risk update

- Services for other payment methods

To capture an authorization:

1. Pass the original authorization ID in the URL, and send the service request to https://api.cybersource.com/pts/v2/payments/{id}/captures.

2. Include the required fields in the request.

3. Include optional fields in the request as needed.

4. Check the response message to make sure that the request was successful. A 200-level HTTP response code indicates success. For information about response codes, see Transaction Response Codes.

Example: Capture

Request

```json
{
    "clientReferenceInformation": {
        "code": "482046C3A7E94F5BD1FE3C66C"
    },
    "orderInformation": {
        "lineItems": [{
                "quantity": "1",
                "unitPrice": "49.95",
                "totalAmount": "49.95",
                "amountIncludesTax": "false",
                "discountApplied": "false"
        }],
        "amountDetails": {
            "totalAmount": "49.95",
            "currency": "USD"
        }
    },
    "id": "0305782650000167905080"
}
```

Response

```json
{
    "_links" : {
        "void" : {
            "method" : "POST",
            "href" : "/pts/v2/captures/5889720178486652203092/voids"
        },
        "self" : {
            "method" : "GET",
            "href" : "/pts/v2/captures/5889720178486652203092"
        }
    },
    "clientReferenceInformation": {
        "code": "482046C3A7E94F5BD1FE3C66C"
    },
    "id": "1019827520348290570293",
    "orderInformation": {
        "amountDetails": {
            "totalAmount": "49.95",
            "currency": "USD"
        }
```

```
    },
    "reconciliationId": "02850840187309570",
    "status" : "PENDING",
    "submitTimeUtc" : "2020-07-20T21:06:58Z"
}
```

Sales

Sales are supported for all processors and acquirers.

Processor-Specific Information

This section provides processor-specific information about authorizations and captures.

Processor-Specific Information About Authorizations and Captures

Payment Processor	Authorization and Capture Information
FDMS South	For the Indonesian rupiah (IDR) and Chilean peso (CLP) currencies only: • Rounding occurs, which can cause a minor discrepancy that consists of a maximum of one currency unit between the amount you requested and the amount that is authorized. • When a transaction is enabled for partial authorization, you must ensure that the requested amount does not include any digits to the right of the decimal separator.

Overview

A *sale* is a bundled authorization and capture. Some processors and acquirers require a sale transaction instead of separate authorization and capture requests. For other processors and acquirers, you can request a sale instead of a separate authorization and capture when you ship a customer's goods immediately after taking the order. A sale is typically used for electronic goods and for services that you can turn on immediately.

Related information

API Field Reference

Banks and Associations *(on page 13)*

Dual-Message Processing

Dual-message processing is supported for all processors and acquirers.

To perform a sale, request the authorization and capture services at the same time. When the authorization is successful, the capture is processed immediately and the response message includes results for the authorization and for the capture. When the authorization is declined, the capture is not processed and the response message includes results only for the authorization.

For debit cards and prepaid cards, the issuing bank can approve a partial amount when the balance on the card is less than the requested authorization amount and when the transaction is enabled for partial authorization. When this happens, the capture is not processed. However, you can submit a capture request for the approved amount. For a limited number of processors and card types, partial authorizations are supported for credit cards in addition to debit cards and prepaid cards.

Required Fields for a Sale

The following fields are required in a request for a sale:

clientReferenceInformation.code

orderInformation.amountDetails.currency

orderInformation.amountDetails.totalAmount

> Either **orderInformation.amountDetails.totalAmount** or **orderInformation.lineItems[]**and **orderInformation.lineItems[].unitPrice** must be included in the request.

orderInformation.billTo.address1

> Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.administrativeArea

> Required when the billing country is the U.S. or Canada except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.country

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.email

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.firstName

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.LastName

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.locality

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.postalCode

Required when the billing country is the U.S. or Canada except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.lineItems[].productName

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.lineItems[].quantity

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.lineItems[].productSku

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.shipTo.address1

Required when any shipping address information is included in the request. Otherwise, this field is optional.

orderInformation.shipTo.administrativeArea

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

orderInformation.shipTo.country

Required when any shipping address information is included in the request. Otherwise, this field is optional.

orderInformation.shipTo.locality

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

orderInformation.shipTo.postalCode

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

paymentInformation.card.expirationMonth

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

paymentInformation.card.expirationYear

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

paymentInformation.card.number

paymentInformation.card.type

Required on Visa Platform Connect for all card types. On other processors, required for certain card types. It is strongly recommended that you send the card type even if it is optional for your processor. Omitting the card type can cause the transaction to be processed with the wrong card type.

processingInformation.commerceIndicator

Required for requests that include payer authentication data. Otherwise, it is optional.

Performing a Sale

Do not include any of these services in the request:

- Full authorization reversal

- Credit

- Risk update

- Services for other payment methods

To perform a sale:

1. Send the service request to https://api.cybersource.com/pts/v2/payments.

2. Include the required fields in the request.

3. Include optional fields in the request as needed.

4. Check the response message to make sure that the request was successful. A 200-level HTTP response code indicates success. For information about response codes, see

Example: Sale

Request

```
{
  "clientReferenceInformation": {
    "code": "482046C3A7E94F5BD1FE3C66C"
  },
  "processingInformation": {
    "capture": true
  },
  "paymentInformation": {
    "card": {
      "number": "4111111111111111",
      "expirationMonth": "12",
      "expirationYear": "2031",
      "type": "001",
      "securityCode": "999"  <!-- Required only for Visa Platform Connect. -->
    }
  },
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "49.95",
      "currency": "USD"
    },
    "lineItems": [
      {
      "quantity": "1",
      "unitPrice": "49.95",
      "totalAmount": "49.94"
      }
    ],
    "billTo": {
      "firstName": "John",
      "lastName": "Doe",
      "address1": "1295 Charleston Rd.",
      "locality": "Mountain View",
      "administrativeArea": "CA",
      "postalCode": "94043",
      "country": "US",
      "email": "jdoe@example.com",
```

```
        "phoneNumber": "650-965-6000"
      }
    }
  }
```

Response

Most processors do not return all the fields in this example.

```
{
  "_links": {
    "void": {
      "method": "POST",
      "href": "/pts/v2/payments/030578265000016790508/voids"
    },
    "self": {
      "method": "GET",
      "href": "/pts/v2/payments/030578265000016790508"
    }
  },
  "clientReferenceInformation": {
    "code": "482046C3A7E94F5BD1FE3C66C"
  },
  "id": "030578265000016790508",
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "49.95",
      "authorizedAmount": "49.95",
      "currency": "USD"
    }
  },
  "paymentAccountInformation": {
    "card": {
      "type": "001"
    }
  },
  "paymentInformation": {
    "card": {
      "type": "001"
    },
    "accountFeatures": {
      "category": "CN",
      "group": "0"
    }
  },
  "processingInformation": {
    "reconciliationId": "02850840187309570"
```

```
    },
    "processorInformation": {
      "approvalCode": "123456",
      "networkTransactionId": "3312345",
      "transactionId": "123456789619999",
      "responseCode": "A",
      "avs": {
        "code": "Y",
        "codeRaw": "YYY"
      }
    },
    "reconciliationId": "ABCDE12345FGHIJ67890",
    "status": "AUTHORIZED",
    "submitTimeUtc": "2021-07-30T15:07:53Z"
  }
```

Follow-on Credits

Follow-on credits are supported for all processors.

Overview

When a request for a credit is successful, the issuing bank for the payment card takes money out of your merchant bank account and returns it to the customer. It usually takes two to four days for your acquiring bank to transfer funds from your merchant bank account.

Carefully control access to the credit service. Do not request this service directly from your customer interface. Instead, incorporate this service as part of your customer service process.

⚠️**Warning:** Follow the preceding guidelines to prevent unauthorized credits.

A *follow-on credit* uses the request ID returned from a capture to link the credit to the capture in the Cybersource database. The capture request ID is used to look up the customer's billing and account information in the database, so you are not required to include those fields in the credit request. However, when you combine a request for a follow-on credit with a request for another service, such as the tax calculation service, you must provide the customer's billing and account information. The capture and follow-on credit are linked in the database and in the Business Center.

Unless otherwise specified, you must request a follow-on credit within 60 days of the authorization.

You can request multiple follow-on credits against a single capture. To perform multiple partial follow-on credits, use the same capture request ID in each follow-on credit request.

Workflow

A credit does not happen in real time. All of the credit requests for a day are placed in a batch file and sent to the processor. In most cases, the batch is settled at night.

The following figure shows the steps that occur when you request a credit.

Processing a Credit

1. You send a request for credit over a secure Internet connection.

2. Cybersource validates the order information then stores the credit request in a batch file.

3. After midnight, Cybersource sends the batch file to your payment processor.

4. The processor settles the credit request by transferring funds from your bank account to the customer's bank account.

   The processor does not notify Cybersource when a transaction is declined. To ensure that all credits are processed, reconcile your system's reports with the reports from your processor.

Required Fields for a Follow-on Credit

The following fields are required in a request for a follow-on credit:

id

Set the **id** URL parameter to the request ID that was included in the capture response message.

clientReferenceInformation.code

orderInformation.amountDetails.currency

orderInformation.amountDetails.totalAmount

Either **grand_total_amount** or **offer0** and **amount** must be included in the request.

orderInformation.shipTo.country

Required when any shipping address information is included in the request. Otherwise, this field is optional.

orderInformation.shipTo.postalCode

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

paymentInformation.card.type

Required on Visa Platform Connect for all card types. On other processors, required for certain card types. It is strongly recommended that you send the card type even if it is optional for your processor. Omitting the card type can cause the transaction to be processed with the wrong card type.

Crediting a Payment with a Follow-on Credit

Do not include any of these services in the request:

- Any other credit card services

- Risk update

- Services for other payment methods

To credit a payment:

1. Send the service request to one of these endpoints:

   - For a follow-on credit for a capture: https://api.cybersource.com/pts/v2/captures/{id}/refunds.

   - For a follow-on credit for a bundled authorization and capture: https://api.cybersource.com/pts/v2/payments/{id}/refunds.

2. Include the required fields in the request.

3. Include optional fields in the request as needed.

4. Check the response message to make sure that the request was successful. A 200-level HTTP response code indicates success. For information about response codes, see Transaction Response Codes.

Example: Follow-on Credit

Request

```json
{
    "clientReferenceInformation": {
        "code": "482046C3A7E94F5BD1FE3C66C"
    },
    "orderInformation": {
        "amountDetails": {
            "totalAmount": "1694.00",
            "currency": "EUR"
        }
    },
    "id": "1019827520348290570293"
}
```

Response

```json
{
    "_links" : {
        "void" : {
            "method" : "POST",
            "href" : "/pts/v2/credits/5889720188386652403092/voids"
        },
        "self" : {
            "method" : "GET",
            "href" : "/pts/v2/credits/5889720188386652403092"
        }
    },
    "clientReferenceInformation": {
        "code": "482046C3A7E94F5BD1FE3C66C"
    },
    "id": "1019827520348290570293",
    "creditAmountDetails" : {
        "currency" : "EUR",
        "creditAmount" : "1694.00"
    },
    "orderInformation": {
        "amountDetails": {
            "totalAmount": "1694.00",
            "currency": "EUR"
        }
    },
    "paymentInformation": {
        "card" : {
```

```
            "type" : "001"
        }
    },
    "reconciliationId": "C3A7E94F5BD1FE3C64820466C",
    "status" : "PENDING",
    "submitTimeUtc" : "2020-07-20T21:06:59Z"
}
```

Stand-Alone Credits

This section describes stand-alone credits.

Overview

A *stand-alone credit* is a credit that is not linked to a capture. There is no time limit for requesting a stand-alone credit.

When a request for a credit is successful, the issuing bank for the payment card takes money out of your merchant bank account and returns it to the customer. It usually takes two to four days for your acquiring bank to transfer funds from your merchant bank account.

Carefully control access to the credit service. Do not request this service directly from your customer interface. Instead, incorporate this service as part of your customer service process.

⚠️**Warning:** Follow the preceding guidelines to prevent unauthorized credits.

Related information

API Field Reference
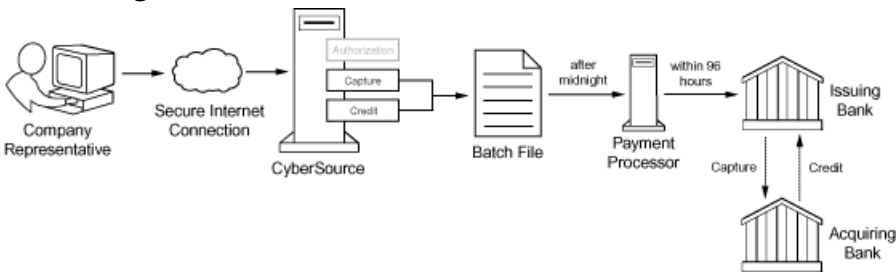
Relaxed Requirements for Address Data and Expiration Date

Required Features for Credit Card Processing *(on page 54)*

Workflow

A credit does not happen in real time. All of the credit requests for a day are placed in a batch file and sent to the processor. In most cases, the batch is settled at night.

The following figure shows the steps that occur when you request a credit.

Processing a Credit

1. You send a request for credit over a secure Internet connection.

2. Cybersource validates the order information then stores the credit request in a batch file.

3. After midnight, Cybersource sends the batch file to your payment processor.

4. The processor settles the credit request by transferring funds from your bank account to the customer's bank account.

   The processor does not notify Cybersource when a transaction is declined. To ensure that all credits are processed, reconcile your system's reports with the reports from your processor.

Required Fields for a Stand-alone Credit

The following fields are required in a request for a stand-alone credit:

id

Set the **id** URL parameter to the request ID that was included in the capture response message.

clientReferenceInformation.code

orderInformation.amountDetails.currency

orderInformation.amountDetails.totalAmount

Either **grand_total_amount** or **offer0** and **amount** must be included in the request.

orderInformation.billTo.address1

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.administrativeArea

Required when the billing country is the U.S. or Canada except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.country

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.email

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.firstName

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.lastName

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.locality

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.postalCode

Required when the billing country is the U.S. or Canada except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.shipTo.country

Required when any shipping address information is included in the request. Otherwise, this field is optional.

orderInformation.shipTo.postalCode

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

paymentInformation.card.expirationMonth

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

paymentInformation.card.expirationYear

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

paymentInformation.card.number

paymentInformation.card.type

Required on Visa Platform Connect for all card types. On other processors, required for certain card types. It is strongly recommended that you send the card type even if it is optional for your processor. Omitting the card type can cause the transaction to be processed with the wrong card type.

Crediting a Payment with a Stand-Alone Credit

Do not include any of these services in the request:

- Any other credit card services

- Risk update

- Services for other payment methods

To credit a payment:

1. Send the service request to https://api.cybersource.com/pts/v2/credits.

2. Include the required fields in the request.

3. Include optional fields in the request as needed.

4. Check the response message to make sure that the request was successful. A 200-level HTTP response code indicates success. For information about response codes, see Transaction Response Codes.

Example: Stand-alone Credit

Request

```
{
  "clientReferenceInformation": {
    "code": "482046C3A7E94F5BD1FE3C66C"
  },
  "paymentInformation": {
    "card": {
      "number": "4111111111111111",
      "expirationMonth": "12",
      "expirationYear": "2022",
      "type": "001"
    }
  },
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "200",
```

```
      "currency": "USD"
    },
    "billTo": {
      "firstName": "John",
      "lastName": "Doe",
      "address1": "1295 Charleston Rd.",
      "locality": "Mountain View",
      "administrativeArea": "CA",
      "postalCode": "94043",
      "country": "US",
      "email": "jdoe@example.com",
      "phoneNumber": "9876543210"
    }
  }
}
```

Response

```
{
  "_links": {
    "void": {
      "method": "POST",
      "href": "/pts/v2/credits/1019827520348290570293/voids"
    },
    "self": {
      "method": "GET",
      "href": "/pts/v2/credits/1019827520348290570293"
    }
  },
  "clientReferenceInformation": {
    "code": "482046C3A7E94F5BD1FE3C66C"
  },
  "creditAmountDetails": {
    "currency": "USD",
    "creditAmount": "200.00"
  },
  "id": "1019827520348290570293",
  "orderInformation": {
    "amountDetails": {
      "currency": "USD"
    }
  },
  "paymentAccountInformation": {
    "card": {
      "type": "001"
    }
  },
```

```
    "paymentInformation": {
      "tokenizedCard": {
        "type": "001"
      },
      "card": {
        "type": "001"
      }
    },
    "processorInformation": {
      "approvalCode": "888888",
      "responseCode": "100"
    },
    "reconciliationId": "C3A7E94F5BD1FE3C64820466C",
    "status": "PENDING",
    "submitTimeUtc": "2021-08-15T05:54:53Z"
  }
```

Voids

This section describes voids.

Overview

A void cancels a capture or credit request that you submitted. A transaction can be voided only when the capture or credit request has not already been submitted to your processor. Capture and credit requests are usually submitted to your processor once a day, so your window for successfully voiding a capture or credit request is small. A void request is declined when the capture or credit request has already been sent to the processor.

A void is a follow-on transaction that uses the request ID returned from a capture or credit. The main purpose of a follow-on transaction is to link two transactions. The request ID links the follow-on transaction to the original transaction. The capture or credit request ID is used to look up the customer's billing and account information in the Cybersource database, so you are not required to include those fields in the void request. The original transaction and follow-on transaction are linked in the database and in the Business Center.

You cannot perform a follow-on credit for a capture that has been voided.

You cannot undo a void.

When you void a capture, a hold remains on the unused credit card funds. If you are not going to re-capture the authorization and if your processor supports authorization reversal after void, it is recommended that you request an authorization reversal to release the hold on the unused credit card funds.

Required Fields for a Void

The following fields are required in a request for a void:

clientReferenceInformation.code

id

> Set the **id** URL parameter to the request ID that was included in the capture or credit response message.

Voiding a Capture or Credit

Do not include any other services in the request.

To void a capture or credit:

1. Send the service request to one of these endpoints:

   - To void a capture: https://api.cybersource.com/pts/v2/captures/{id}/voids.

   - To void a bundled authorization and capture: https://api.cybersource.com/pts/v2/payments/{id}/voids.

   - To void a follow-on credit: https://api.cybersource.com/pts/v2/refunds/{id}/voids.

   - To void a stand-alone credit: https://api.cybersource.com/pts/v2/credits/{id}/voids.

2. Include the required fields in the request.

3. Include optional fields in the request as needed.

4. Check the response message to make sure that the request was successful. A 200-level HTTP response code indicates success. For information about response codes, see Transaction Response Codes.

Example: Void

Request

```
{
  "clientReferenceInformation": {
    "code": "482046C3A7E94F5BD1FE3C66C"
  }
}
```

Response

Most processors do not return all the fields in this example.

```
{
  "_links": {
    "self": {
      "method": "GET",
      "href": "/pts/v2/payments/6276507288196415903001"
    }
  },
  "clientReferenceInformation": {
    "code": "482046C3A7E94F5BD1FE3C66C"
  },
  "id": "030578265000016790508",
  "orderInformation": {
    "amountDetails": {
      "authorizedAmount": "49.95",
      "currency": "USD"
    }
  },
  "paymentAccountInformation": {
    "card": {
      "type": "001"
    }
  },
  "paymentInformation": {
    "tokenizedCard": {
      "type": "001"
    },
    "card": {
      "type": "001"
    },
    "accountFeatures": {
      "category": "CN",
      "group": "0"
```

```
    }
  },
  "processorInformation": {
    "approvalCode": "123456",
    "networkTransactionId": "123456789619999",
    "transactionId": "3312345",
    "responseCode": "A",
    "avs": {
      "code": "Y",
      "codeRaw": "YYY"
    }
  },
  "reconciliationId": "ABCDE12345FGHIJ67890",
  "status": "VOIDED",
  "submitTimeUtc": "2021-07-30T13:12:09Z"
}
```

Testing the Credit Card Services

To ensure that requests are processed correctly, you must test the basic success and error conditions for each service you plan to use.

Requirements for Testing Credit Card Services

> ⚠️ **Important:** Before you can test, you must contact customer support to activate the credit card services and configure your account for testing. You must also contact your processor to set up your processor account.

- Use your regular merchant ID when you test your system.

- Use a real combination for the city, state, and postal code.

- Use a real combination for the area code and telephone number.

- Use a nonexistent account and domain name for the customer's email address.

- URLs for the REST API test server:

    - Authorization: `https://apitest.cybersource.com/pts/v2/payments/`

    - Authorization reversal: `https://apitest.cybersource.com/pts/v2/payments/{id}/reversals`

    - Capture: `https://apitest.cybersource.com/pts/v2/payments/{id}/captures`

    - Follow-on credit: `https://apitest.cybersource.com/pts/v2/captures/{id}/refunds`

    - Stand-alone credit: `https://apitest.cybersource.com/pts/v2/credits`

    - Sale: `https://apitest.cybersource.com/pts/v2/payments/`

    - Void a capture: `https://apitest.cybersource.com/pts/v2/captures/{id}/voids`

    - Void a bundled authorization and capture: `https://apitest.cybersource.com/pts/v2/payments/{id}/voids`

    - Void a follow-on credit: `https://apitest.cybersource.com/pts/v2/refunds/{id}/voids`

    - Void a stand-alone credit: `https://apitest.cybersource.com/pts/v2/credits/{id}/voids`

Testing the Credit Card Services

Use the payment card numbers in the following list to test the credit card services. Remove the spaces from the test card numbers when sending them to the test system. Do not use real payment card numbers. To test card types that are not included in the list, use an account number that is in the card's bin range. For best results, try each test with a different service request and with different test payment card numbers.

Payment Card Numbers for Testing

Payment Card Type	Test Card Number
American Express	3782 8224 6310 005
JCB	3566 1111 1111 1113
Maestro (International)	5033 9619 8909 17 5868 2416 0825 5333 38
Maestro (UK Domestic) The issue number is not required for Maestro (UK Domestic) transactions	6759 4111 0000 0008 6759 5600 4500 5727 054 5641 8211 1116 6669
Mastercard	2222 4200 0000 1113 2222 6300 0000 1125 5555 5555 5555 4444
UATP	1354 1234 5678 911
Visa	4111 1111 1111 1111

Using Amounts to Simulate Errors

You can simulate error messages by requesting authorization, capture, or credit services with specific amounts that trigger the error messages. These triggers work only on the test server, not on the production server.

Each payment processor uses its own error messages. See https://developer.cybersource.com/hello-world/testing-guide.html .

Testing American Express Card Verification

Before using CVN with American Express, it is strongly recommended that you perform this procedure.

1. Contact customer support to have your account configured for CVN. Until you do this, you will receive a `1` in the **processorInformation.cardVerification.resultCode** response field.

2. Test your system in production using a small currency amount, such as one currency unit. Instead of using the test account numbers, use a real payment card account number, and send an incorrect CVN in the request for authorization. The card should be refused and the request declined.

Required Features for Credit Card Processing

This section provides detailed information about the features that are required for credit card processing:

Authorization Reversal after Void (ARAV)

This feature enables you to reverse an authorization after you void the associated capture.

This functionality enables you to meet the Visa mandate requirements to reverse unused authorizations, and it benefits the customer by releasing the hold on unused credit card funds.

Required Fields for an Authorization Reversal

The following fields are required in a request for an authorization reversal:

id

> Set the **id** URL parameter to the request ID that was included in the authorization response message.

clientReferenceInformation.code

orderInformation.amountDetails.currency

orderInformation.amountDetails.totalAmount

> Either **orderInformation.amountDetails.totalAmount** or
> **orderInformation.lineItems[].unitPrice** must be included in the request.
>
> The amount of the reversal must be the same as the amount that was authorized:
>
> - You cannot partially reverse an authorization; you can reverse an authorization only for its full amount.
>
> - When you use a debit card or prepaid card and only a partial amount was approved, the amount of the reversal must be the amount that was authorized, not the amount that was requested.

Required Fields for a Void

The following fields are required in a request for a void:

clientReferenceInformation.code

id

> Set the **id** URL parameter to the request ID that was included in the capture or credit response message.

Reversing an Authorization After a Void

To reverse an authorization after a void, you void a capture and then reverse an authorization.

1. Send the void service request to one of these endpoints:

   - To void a capture: https://api.cybersource.com/pts/v2/captures/{id}/voids.

   - To void a bundled authorization and capture: https://api.cybersource.com/pts/v2/payments/{id}/voids.

2. Include the required fields in the request.

3. Include optional fields in the request as needed.

4. Check the response message to make sure that the request was successful. A 200-level HTTP response code indicates success. For information about response codes, see Transaction Response Codes.

5. Send the authorization reversal service request to https://api.cybersource.com/pts/v2/payments/{id}/reversals.

6. Include the required fields in the request.

7. Include optional fields in the request as needed.

8. Check the response message to make sure that the request was successful. A 200-level HTTP response code indicates success. For information about response codes, see Transaction Response Codes.

Example: Void

Request

```json
{
  "clientReferenceInformation": {
    "code": "482046C3A7E94F5BD1FE3C66C"
  }
}
```

Response

Most processors do not return all the fields in this example.

```json
{
  "_links": {
    "self": {
      "method": "GET",
      "href": "/pts/v2/payments/6276507288196415903001"
    }
  },
  "clientReferenceInformation": {
    "code": "482046C3A7E94F5BD1FE3C66C"
  },
  "id": "0305782650000016790508",
  "orderInformation": {
    "amountDetails": {
      "authorizedAmount": "49.95",
      "currency": "USD"
    }
  },
  "paymentAccountInformation": {
    "card": {
      "type": "001"
    }
  },
  "paymentInformation": {
    "tokenizedCard": {
      "type": "001"
    },
    "card": {
      "type": "001"
    },
    "accountFeatures": {
      "category": "CN",
      "group": "0"
```

```
    }
  },
  "processorInformation": {
    "approvalCode": "123456",
    "networkTransactionId": "123456789619999",
    "transactionId": "3312345",
    "responseCode": "A",
    "avs": {
      "code": "Y",
      "codeRaw": "YYY"
    }
  },
  "reconciliationId": "ABCDE12345FGHIJ67890",
  "status": "VOIDED",
  "submitTimeUtc": "2021-07-30T13:12:09Z"
}
```

Example: Authorization Reversal

Request

```
{
  "clientReferenceInformation": {
    "code": "482046C3A7E94F5BD1FE3C66C"
  },
  "reversalInformation": {
    "amountDetails": {
      "totalAmount": "49.95"
      "currency": "USD"
    },
    "reason": "testing"
  }
}
```

Response

```
{
    "_links" : {
        "void" : {
            "method" : "POST",
            "href" : "/pts/v2/credits/1019827520348290570293/voids"
        },
        "self" : {
            "method" : "GET",
```

```
            "href" : "/pts/v2/credits/1019827520348290570293"
        }
    },
    "clientReferenceInformation": {
        "code": "482046C3A7E94F5BD1FE3C66C"
    },
    "id": "1019827520348290570293",
    "creditAmountDetails" : {
        "currency" : "USD",
        "creditAmount" : "49.95"
    },
    "orderInformation": {
        "amountDetails": {
            "totalAmount": "49.95",
            "currency": "USD"
        }
    },
    "reconciliationId": "02850840187309570",
    "status" : "REVERSED",
    "submitTimeUtc" : "2021-07-20T21:06:59Z"
}
```

Automatic Partial Authorization Reversals

Automatic partial authorization reversals are supported for credit cards.

Card Types that Support Automatic Partial Authorization Reversals

Card Types That Support Automatic Partial Authorization Reversals

Processor	Card Types and Notes
FDMS South	Visa, Mastercard, Discover, JCB (US Domestic) For JCB cards, *US Domestic* means that the currency is USD and your location is the U.S., Puerto Rico, Guam, U.S. Virgin Islands, or Northern Mariana Islands.

Automatic Partial Authorization Reversals Overview

In addition to credit cards, automatic partial authorization reversals are supported for:

- Debit cards and prepaid cards.

- Quasi-cash.

If the capture amount is less than the authorization amount, Cybersource automatically performs a partial authorization reversal before it sends the capture request to the processor. The results of a successful partial authorization reversal are:

- The capture amount matches the new authorization amount at the payment card company.

- The hold on the unused credit card funds might be released. The issuing bank decides whether or not to release the hold on unused funds.

  Not all issuers act on a request for a partial authorization reversal. Therefore, Cybersource cannot guarantee that the funds will be released.

Card Verification Numbers

Card verification numbers (CVN) is a required feature for the authorization service.

Card Types that Support Card Verification Numbers

Card Types that Support Card Verification Numbers (CVNs)

Processor	Payment Card Types
FDMS South	Visa, Mastercard, American Express, Discover, Diners Club, JCB (US Domestic) For JCB cards, *US Domestic* means that the currency is USD and your location is the U.S., Puerto Rico, Guam, U.S. Virgin Islands, or Northern Mariana Islands.

CVN Locations and Terminology

⚠ **Important:** In Europe, Visa mandates that you must not include a CVN for mail-order transactions and must not record a CVN on any physical format such as a mail-order form.

The CVN, which is printed or embossed on the back of the card, can be sent with the request and verified to help reduce the risk of fraud.

Location of the Card Verification Number
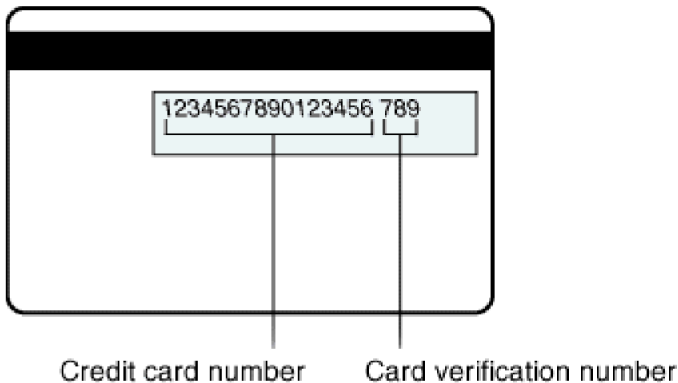
Each payment card company has its own name for this value:

• Visa calls it the *Card Verification Value* (CVV2).

- American Express and Discover call it the *Card Identification Digits* (CID).

- Mastercard calls it the *Card Validation Code* (CVC2).

To use the CVN, include the field in the request. This number is never transferred during card swipes and should be known only by the cardholder.

CVN Results

The response message includes a raw response code and a mapped response code:

- The *raw response code* is the value returned by the processor. This value is returned in the **processorInformation.cardVerification.resultCodeRaw** field. Use this value only for debugging purposes; do not use it to determine the card verification response.

- The *mapped response code* is the pre-defined value that corresponds to the raw response code. This value is returned in the **processorInformation.cardVerification.resultCode** field.

Even when the CVN does not match the expected value, the issuing bank might still authorize the transaction. You will receive a CVN decline, but you can still capture the transaction because it has been authorized by the bank. However, you must review the order to ensure that it is legitimate.

Settling authorizations that fail the CVN check might have an impact on the fees charged by your bank. Contact your bank for details about how card verification management might affect your discount rate.

When a CVN decline is received for the authorization in a sale request, the capture request is not processed unless you set the **processingInformation.authorizationOptions.ignoreCvResult** field to `true` .

CVN Results for American Express

A value of `1` in the **processorInformation.cardVerification.resultCode** field indicates that your account is not configured for CVN. Contact customer support to have your account enabled for this feature.

CVN Results for Discover

- CVN results can be returned for any of the card types on the Discover Network.

- The CVN results are returned to you and it is your responsibility to decide whether or not to accept the transaction.

CVN Results for Visa and Mastercard

A CVN code of `D` or `N` causes the request to be declined with a transaction response code value of `201`. You can still capture the transaction, but you must review the order to ensure that it is legitimate.

Cybersource, not the issuing bank, assigns the CVN decline to the authorization. You can capture any authorization that has a valid authorization code from the issuing bank, even when the request receives a CVN decline.

When the issuing bank does not authorize the transaction and the CVN does not match, the request is declined because the card is refused. You cannot capture the transaction.

Required Field for an Authorization with a Card Verification Number

The following field is required in a request for an authorization that includes a card verification number:

paymentInformation.card.securityCode

Required Fields for an Authorization

The following fields are required in a request for an authorization:

clientReferenceInformation.code

orderInformation.amountDetails.currency

orderInformation.amountDetails.totalAmount

Either **orderInformation.amountDetails.totalAmount** or **orderInformation.lineItems[]** and **orderInformation.lineItems[].unitPrice** must be included in the request.

orderInformation.billTo.address1

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.administrativeArea

Required when the billing country is the U.S. or Canada except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.country

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.email

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.firstName

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.lastName

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.locality

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.postalCode

Required when the billing country is the U.S. or Canada except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.lineItems[].productName

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.lineItems[].productSku

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.lineItems[].quantity

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.shipTo.address1

Required when any shipping address information is included in the request. Otherwise, this field is optional.

orderInformation.shipTo.administrativeArea

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

orderInformation.shipTo.country

Required when any shipping address information is included in the request. Otherwise, this field is optional.

orderInformation.shipTo.locality

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

orderInformation.shipTo.postalCode

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

paymentInformation.card.expirationMonth

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

paymentInformation.card.expirationYear

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

paymentInformation.card.number

paymentInformation.card.type

Required on Visa Platform Connect for all card types. On other processors, required for certain card types. It is strongly recommended that you send the card type even if it is optional for your processor. Omitting the card type can cause the transaction to be processed with the wrong card type.

processingInformation.commerceIndicator

Required for requests that include payer authentication data. Otherwise, this field optional.

Optional Fields for an Authorization with a Card Verification Number

You can include the following optional fields in a request for card verification numbers:

paymentInformation.card.securityCodeIndicator

processingInformation.authorizationOptions.ignoreCvResult

Authorizing a Payment with CVN

Do not include any of these services in the request:

- Full authorization reversal

- Credit

- Risk update

- Services for other payment methods

To authorize a payment:

1. Send the service request to https://api.cybersource.com/pts/v2/payments.

2. Include the required fields in the request.

3. Include optional fields in the request as needed.

4. Check the response message to make sure that the request was successful. A 200-level HTTP response code indicates success. For information about response codes, see Transaction Response Codes.

Example: Authorization with CVN

Request

```
{
    "clientReferenceInformation": {
        "code": "482046C3A7E94F5BD1FE3C66C"
    },
    "paymentInformation": {
        "card": {
            "number": "4111111111111111",
            "expirationMonth": "12",
            "expirationYear": "2031",
            "type": "001",
            "securityCode": "999" <!-- Required only for Visa Platform Connect. -->
        }
    },
    "orderInformation": {
        "amountDetails": {
            "totalAmount": "49.95",
            "currency": "USD"
        },
        "lineItems": [{
            "quantity": "1",
            "unitPrice": "49.95",
            "totalAmount": "49.95",
            "amountIncludesTax": "false",
            "discountApplied": "false"
        }],
        "billTo": {
            "firstName": "John",
            "lastName": "Doe",
            "address1": "1295 Charleston Rd.",
            "locality": "Mountain View",
            "administrativeArea": "CA",
```

```
            "postalCode": "94043",
            "country": "US",
            "email": "jdoe@example.com",
            "phoneNumber": "650-965-6000"
        }
    }
}
```

Response

Most processors do not return all the fields in this example.

```
{
    "_links": {
        "authReversal": {
            "method": "POST",
            "href": "/pts/v2/payments/6262667483236171303005/reversals"
        },
        "self": {
            "method": "GET",
            "href": "/pts/v2/payments/6262667483236171303005"
        },
        "capture": {
            "method": "POST",
            "href": "/pts/v2/payments/6262667483236171303005/captures"
        }
    },
    "clientReferenceInformation": {
        "code": "482046C3A7E94F5BD1FE3C66C"
    },
    "id": "6262667483236171303005",
    "orderInformation": {
        "amountDetails": {
            "authorizedAmount": "49.95",
            "currency": "USD"
        }
    },
    "paymentAccountInformation": {
        "card": {
            "type": "001"
        }
    },
    "paymentInformation": {
        "tokenizedCard": {
            "type": "001"
        },
        "card": {
```

```
            "type": "001"
        }
    },
    "pointOfSaleInformation": {
        "terminalId": "111111"
    },
    "processorInformation": {
        "approvalCode": "888888",
        "networkTransactionId": "123456789619999",
        "transactionId": "123456789619999",
        "responseCode": "A",
        "avs": {
            "code": "Y",
            "codeRaw": "YYY"
        }
    },
    "reconciliationId": "72242417DR0JSAV0",
    "status": "AUTHORIZED",
    "submitTimeUtc": "2021-07-14T12:45:48Z"
}
```

Standard AVS

This section provides information about standard Address Verification System (AVS), which is supported for cards that are issued in the U.K., the U.S., and Canada.

Processing AVS Codes

When a processor supports AVS for a transaction's card type, the issuing bank uses AVS to confirm that the customer has provided the correct billing address. When a customer provides incorrect information, the transaction might be fraudulent.

AVS occurs automatically with every authorization request. The authorization response includes the **processorInformation.avs.code** field, which contains the AVS code from the issuing bank that indicates whether AVS matched the address and whether the address match was partial or complete.

When AVS cannot verify the address, but the authorization is otherwise valid, you might receive an AVS decline. You can capture authorizations that receive an AVS decline. However, you must review these orders to ensure that they are legitimate. Settling authorizations that fail the AVS check might have an impact on the fees charged by your bank. Contact your bank for details about how AVS management might affect your discount rate.

The **processorInformation.avs.codeRaw** field is the raw AVS code sent directly from the processor. Do not use this value to handle the AVS response. Use the value only for debugging purposes.

Controlling AVS Results

By default, only the AVS code N results in an AVS decline. You can change this behavior by including the **processingInformation.authorizationOptions.declineAvsFlags** field in the request.

Card Types that Support Standard AVS

The following table lists the card types for which standard AVS results are returned.

Card Types That Support Standard AVS

Processor	Payment Card Types
FDMS South	Visa, Mastercard, American Express, Discover, Diners Club, JCB (US Domestic) For JCB cards, *US Domestic* means that the currency is USD and your location is the U.S., Puerto Rico, Guam, U.S. Virgin Islands, or Northern Mariana Islands.

No Required Fields for Standard AVS

You are not required to include any specific fields in a request for standard AVS.

Required Fields for an Authorization

The following fields are required in a request for an authorization:

clientReferenceInformation.code

orderInformation.amountDetails.currency

orderInformation.amountDetails.totalAmount

> Either **orderInformation.amountDetails.totalAmount** or **orderInformation.lineItems[]** and **orderInformation.lineItems[].unitPrice** must be included in the request.

orderInformation.billTo.address1

> Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.administrativeArea

> Required when the billing country is the U.S. or Canada except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.country

> Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.email

> Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.firstName

> Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.lastName

> Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.locality

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.postalCode

Required when the billing country is the U.S. or Canada except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.lineItems[].productName

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.lineItems[].productSku

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.lineItems[].quantity

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.shipTo.address1

Required when any shipping address information is included in the request. Otherwise, this field is optional.

orderInformation.shipTo.administrativeArea

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

orderInformation.shipTo.country

Required when any shipping address information is included in the request. Otherwise, this field is optional.

orderInformation.shipTo.locality

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

orderInformation.shipTo.postalCode

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

paymentInformation.card.expirationMonth

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

paymentInformation.card.expirationYear

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

paymentInformation.card.number

paymentInformation.card.type

Required on Visa Platform Connect for all card types. On other processors, required for certain card types. It is strongly recommended that you send the card type even if it is optional for your processor. Omitting the card type can cause the transaction to be processed with the wrong card type.

processingInformation.commerceIndicator

Required for requests that include payer authentication data. Otherwise, this field optional.

Optional Fields for Standard AVS

You can include the following optional fields in a request for standard AVS:

processingInformation.authorizationOptions.declineAvsFlags

Use a space to separate the values in the list.

> ⚠️ **Important:** When you use **processingInformation.authorizationOptions.declineAvsFlags**, you must include the value `N` in the list if you want to receive declines for AVS code N.

processingInformation.authorizationOptions.ignoreAvsResult

When a request includes the **processingInformation.authorizationOptions.ignoreAvsResult** field set to `true`, you receive no AVS declines, when you use **processingInformation.authorizationOptions.declineAvsFlags**.

Example: Authorization with AVS

Request

```
{
  "clientReferenceInformation": {
    "code": "1234567890"
  },
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "49.95",
      "currency": "BRL"
    },
```

```json
    "billTo": {
      "firstName": "Adriana",
      "lastName": "Tavares da Silva",
      "email": "asilva@example.com",
      "phone": "+552121114700",
      "address1": "Rua da Quitanda 187",
      "buildingNumber": "187",
      "locality": "Rio de Janeiro",
      "postalCode": "20091-005",
      "country": "BR"
    },
    "lineItems": [
    {
        "quantity": "1",
        "unitPrice": "49.95",
        "totalAmount": "49.95"
    }
    ]
  },
  "paymentAccountInformation": {
    "card": {
      "type": "052"
    }
  },
  "paymentInformation": {
    "card": {
      "type": "052",
      "number": "5432543254325432",
      "expirationMonth": "12",
      "expirationYear": "2022"
    }
  }
}
```

Response

Most processors do not return all the fields in this example.

```json
{
  "_links": {
    "void": {
      "method": "POST",
      "href": "/pts/v2/payments/12345678901234567890/voids"
    },
    "self": {
      "method": "GET",
      "href": "/pts/v2/payments/12345678901234567890"
```

```json
    }
  },
  "clientReferenceInformation": {
    "code": "1234567890"
  },
  "id": "12345678901234567890",
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "49.95",
      "authorizedAmount": "49.95",
      "currency": "BRL"
    }
  },
  "paymentAccountInformation": {
    "card": {
      "type": "052"
    }
  },
  "paymentInformation": {
    "card": {
      "type": "052",
      "number": "5432543254325432",
      "expirationMonth": "12",
      "expirationYear": "2022"
    },
    "accountFeatures": {
      "category": "CN",
      "group": "0"
    }
  }
  "processorInformation": {
    "approvalCode": "123456",
    "networkTransactionId": "3312345",
    "transactionId": "123456789619999",
    "responseCode": "A",
    "avs": {
      "code": "V"
    }
  },
  "reconciliationId": "19119123456",
  "status": "AUTHORIZED",
  "submitTimeUtc": "2021-07-30T15:07:53Z"
}
```

Debit and Prepaid Card Features

Debit cards and prepaid cards can be processed using the credit card services. You can use PIN debit services to process debit cards if your processor supports PIN debit transactions.

Partial authorizations and balance responses are special features that are available for debit cards and prepaid cards.

Partial Authorizations

The partial authorization functionality does not apply to credit cards.

For debit cards and prepaid cards, the issuing bank can approve a partial amount if the balance on the card is less than the requested authorization amount.

> ⚠️ **Important:** Partial authorizations are not available for Mastercard transactions in the IDR currency.

Supported Card Types

The following table lists the card types that are supported for partial authorizations.

Card Types Supported for Partial Authorizations

Processor	Card types for Debit Cards and Prepaid Cards
FDMS South	Visa, Mastercard, American Express, Discover, JCB (US Domestic) For Discover and JCB (US Domestic) card types on the specified processor, partial authorizations are supported for credit cards in addition to debit cards and prepaid cards. For JCB cards, *US Domestic* means that the currency is USD and your location is the U.S., Puerto Rico, Guam, U.S. Virgin Islands, or Northern Mariana Islands.

Unsupported Card Types

Prepaid cards and debit cards that are not supported for partial authorization are processed as follows:

- When the card balance is sufficient for the requested transaction, the transaction is successful.

- When the card balance is not sufficient for the requested transaction, the request is declined.

How a Partial Authorization Works

Support for your processor and card type does not guarantee a partial authorization. The issuing bank decides whether or not to approve a partial amount.

When the balance on a debit card or prepaid card is less than the requested authorization amount, the issuing bank can approve a partial amount. When this happens, you can accept multiple forms of payment for the order starting with some or all of the approved amount followed by one or more different payment methods:

1. If your account is not configured for partial authorizations, you must enable partial authorizations for the transaction by setting **processingInformation.authorizationOptions.partialAuthIndicator** to `true` in a request.

2. You submit an authorization request or a sale request for a debit card or prepaid card.

3. The authorization response message includes:

   - **orderInformation.amountDetails.totalAmount**: amount you requested

   - **orderInformation.amountDetails.authorizedAmount**: amount that was authorized

4. You submit a capture request for the partial authorization.

   When you capture only part of the approved amount, Cybersource or your processor might be able to perform an automatic partial authorization reversal for you.

   If you do not capture the partial authorization, you must request a full authorization reversal if this service is supported for your processor and card type.

5. You use one or more different payment methods for the rest of the order amount.

   When you process these payment methods through Cybersource, you can use the **processingInformation.linkId** field to link the payment requests to the original authorization request. Set **processingInformation.linkId** to the value that was returned in the response message for the original authorization request.

Special Processing for IDR and CLP on FDMS South

For the Indonesian rupiah (IDR) and Chilean peso (CLP) currencies only:

- Rounding occurs, which can cause a minor discrepancy of up to one currency unit between the amount you requested and the amount that is authorized.

- When a transaction is enabled for partial authorization, you must ensure that the requested amount does not include any digits to the right of the decimal separator.

Required Field for Opting In (Enabling) Partial Authorizations

When your account is not enabled to support partial authorizations, the following field is required to enable partial authorizations:

processingInformation.authorizationOptions.partialAuthIndicator

> Set this field to `true` in an authorization or sale request. When you do this, only that specific transaction is enabled for partial authorization.

Required Field for Opting Out (Disabling) Partial Authorizations

When your account is enabled to support partial authorizations, the following field is required to disable partial authorizations for a specific transaction:

processingInformation.authorizationOptions.partialAuthIndicator

> Set this field to `false` in an authorization or sale request. When you do this, only that specific transaction is enabled for partial authorization.

Required Fields for an Authorization

The following fields are required in a request for an authorization:

clientReferenceInformation.code

orderInformation.amountDetails.currency

orderInformation.amountDetails.totalAmount

> Either **orderInformation.amountDetails.totalAmount** or **orderInformation.lineItems[]** and **orderInformation.lineItems[].unitPrice** must be included in the request.

orderInformation.billTo.address1

> Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.administrativeArea

> Required when the billing country is the U.S. or Canada except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.country

> Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.email

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.firstName

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.lastName

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.locality

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.billTo.postalCode

Required when the billing country is the U.S. or Canada except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

orderInformation.lineItems[].productName

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.lineItems[].productSku

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.lineItems[].quantity

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.shipTo.address1

Required when any shipping address information is included in the request. Otherwise, this field is optional.

orderInformation.shipTo.administrativeArea

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

orderInformation.shipTo.country

Required when any shipping address information is included in the request. Otherwise, this field is optional.

orderInformation.shipTo.locality

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

orderInformation.shipTo.postalCode

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

paymentInformation.card.expirationMonth

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

paymentInformation.card.expirationYear

Required except when your account is configured for relaxed requirements for address data and expiration date. **Important:** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

paymentInformation.card.number

paymentInformation.card.type

Required on Visa Platform Connect for all card types. On other processors, required for certain card types. It is strongly recommended that you send the card type even if it is optional for your processor. Omitting the card type can cause the transaction to be processed with the wrong card type.

processingInformation.commerceIndicator

Required for requests that include payer authentication data. Otherwise, this field optional.

Required Fields for a Capture

The following fields are required in a request for a capture:

clientReferenceInformation.code

id

Set the **id** URL parameter to the request ID that was included in the authorization response message. Do not include this value when the authorization and capture requests are bundled.

orderInformation.amountDetails.currency

orderInformation.amountDetails.totalAmount

Either **orderInformation.amountDetails.totalAmount** or **orderInformation.lineItems[]** and **orderInformation.lineItems[].unitPrice** must be included in the request.

orderInformation.lineItems[].productName

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.lineItems[].productSku

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.lineItems[].quantity

Required when the product code is not `default` or one of the values for shipping or handling. Otherwise, this field is optional.

orderInformation.shipTo.country

Required when any shipping address information is included in the request. Otherwise, this field is optional.

orderInformation.shipTo.postalCode

Required when any shipping address information is included in the request and shipping to the U.S. or Canada. Otherwise, this field is optional.

Optional Field for Enabling and Disabling Partial Authorizations

You can include the following optional field when you are enabling or disabling partial authorizations for a specific transaction:

processingInformation.linkId

Set this field to the request ID that was returned in the response message from the original authorization request.

Opting Out: Disabling Partial Authorizations

If your account is configured for partial authorizations, you can disable a partial authorization for a specific transaction by performing these steps.

1. Send the service request to https://api.cybersource.com/pts/v2/payments.

2. Include the required fields in the request.

3. Include optional fields in the request as needed.

4. Check the response message to make sure that the request was successful. A 200-level HTTP response code indicates success. For information about response codes, see Transaction Response Codes.

Opting In: Enabling Partial Authorizations

You must opt in to be able to receive and capture partial authorizations. If you want *all* authorization requests enabled for partial authorizations, call customer support. If you want only *specific* transactions enabled for partial authorizations, perform these steps.

1. Send the service request to https://api.cybersource.com/pts/v2/payments.

2. Include the required fields in the request.

3. Include optional fields in the request as needed.

4. Check the response message to make sure that the request was successful. A 200-level HTTP response code indicates success. For information about response codes, see Transaction Response Codes.

If the partial amount was approved (instead of the total requested amount), the request amount and total amount fields are included in the response.

> ⚠ **Important:** If you do not capture the partial authorization, you need to request the full authorization reversal if this service is supported for your processor and card type.

Capturing a Partial Authorization

Make sure you capture the partially-approved amount in the **orderInformation.amountDetails.authorizedAmount** field. Do not capture the amount that you requested in the authorization request message.

Do not include any of these services in the request:

- Full authorization reversal

- Credit

- Risk update

- Services for other payment methods

To capture a partial authorization:

1. Pass the original authorization ID in the URL, and send the service request to https://api.cybersource.com/pts/v2/payments/{id}/captures.

2. Include the required fields in the request.

3. Include optional fields in the request as needed.

4. Check the response message to make sure that the request was successful. A 200-level HTTP response code indicates success. For information about response codes, see Transaction Response Codes.

Use one or more different payment methods for the rest of the order amount.
When you process these payment methods through Cybersource, you can use the **processingInformation.linkId** field to link the payment requests to the original authorization request. Set **processingInformation.linkId** to the value that was returned in the response message for the original authorization request.

Example: Partially Approved Authorization

Request

```json
{
  "clientReferenceInformation": {
    "code": "AB1234.1-1"
  },
  "paymentInformation": {
    "card": {
      "number": "4111111111111111",
      "expirationMonth": "12",
      "expirationYear": "2015",
      "securityCode": "xxx"
    }
  },
  "orderInformation": {
    "amountDetails": {
      "totalAmount": "1401.00",
      "currency": "USD"
    },
    "billTo": {
      "firstName": "John",
      "lastName": "Smith",
      "address1": "201 S. Division St.",
      "address2": "Suite 500",
      "locality": "Ann Arbor",
      "administrativeArea": "MI",
      "postalCode": "48104-2201",
      "country": "US",
      "email": "okgo@example.com",
      "phoneNumber": "1234567890"
    }
  }
}
```

Response

Most processors do not return all the fields in this example.

```json
{
  "clientReferenceInformation": {
    "code": "AB1234.1-1"
  },
  "id": "2688634660000167904540",
  "orderInformation": {
```

```json
    "amountDetails": {
      "totalAmount": "1401.00",
      "authorizedAmount": "500.00",
      "currency": "USD"
    }
  },
  "processorInformation": {
    "approvalCode": "831000",
    "networkTransactionId": "3312345",
    "transactionId": "123456789619999",
    "responseCode": "100",
    "avs": {
      "code": "A",
      "codeRaw": "A"
    }
  },
  "reconciliationId": "ABCDE12345FGHIJ67890",
  "status": "Request was partially approved.",
  "submitTimeUtc": "2021-08-03T16:38:38Z"
}
```

Real-Time Reversals

There are two kinds of real-time reversals:

- A *full authorization reversal* is a service that you can request.

  If you do not capture a partial authorization and if full authorization reversals are supported for your processor and card type, you must request a full authorization reversal to release the hold that the authorization placed on the customer's funds. The amount of the reversal must be the amount that was authorized, not the amount that was requested.

- An *automatic partial authorization reversal* is performed automatically under certain conditions.

  When you capture a partial authorization for an amount that is less than the approved amount, Cybersource automatically performs a partial authorization reversal if it is supported for your processor and card type. Cybersource performs the automatic partial authorization reversal before sending the capture request to the processor.

  Some processors perform an automatic partial authorization reversal when an interchange benefit is available. These processors do not allow Cybersource to perform this functionality.

Related information

Balance Responses

Balance inquiries and balance responses are two different features:

- Balance responses are supported for prepaid cards and are a partial authorization feature.

- Balance inquiries are not associated with partial authorizations.

Normally, balance responses are not returned for debit cards.

When a balance remains on a prepaid card after an authorization, the authorization response can include the balance amount.

Depending on what data your processor returns, the following fields might be included in the response:

- **paymentInformation.accountFeatures.balanceAmount**: balance amount remaining on the prepaid card after the authorization

  For Discover, some processors return the balance in the **processorInformation.approvalCode** field.

- **paymentInformation.accountFeatures.currency**: currency of the balance amount

- **paymentInformation.accountFeatures.balanceSign**: sign for the balance amount

Supported Card Types for Balance Responses

The following table lists the card types for which balance responses are supported. Depending on what data your processor returns, the following fields might be included in the response.

Card Types Supported for Balance Responses

Processor	Card Type	Balance Field	Currency Field	Sign Field
FDMS South	Visa	Yes	Yes	Yes
	Mastercard	No	No	No
	American Express	Yes	Yes	Yes
	Discover For Discover, some processors return the balance in the **processorInformation.approvalCode** field.	No	No	No

Card Types Supported for Balance Responses (continued)

Processor	Card Type	Balance Field	Currency Field	Sign Field
	Diners Club	No	No	No
	JCB	No	No	No

Features for Maestro (UK Domestic) Cards

Maestro (UK Domestic) cards are debit cards that originate in the United Kingdom. These cards can have the following features:

- **Issue number:** A Maestro (UK Domestic) card might have an issue number embossed on it. The issue number can consist of one or two digits; the first digit can be a zero. An issue number of `2` is different from `02`. The issue number is not required for Maestro (UK Domestic) transactions.

- **Start date:** A Maestro (UK Domestic) card might have a start date embossed on it. The start date consists of a month and year. The start date is not required for Maestro (UK Domestic) transactions.

Optional Features

For information about the optional features that are available for credit card processing, refer to *Credit Card Services Optional Features (Simple Order API)*.