Credit Card Services

User Guide

March 2019

CyberSource®
the power of payment

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CyberSource Contact Information

For technical support questions, go to the Home page in the Business Center to see the contact information appropriate for your account.

Visit the Business Center, your central location for managing your online payment transactions, at https://businesscenter.cybersource.com.

For general information about our company, products, and services, go to http://www.cybersource.com.

For sales questions about any CyberSource Service, email sales@cybersource.com or call 650-432-7350 or 888-330-2300 (toll free in the United States).

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Contents

Recent Revisions to This Document

Release	Changes
March 2019	All processors that support merchant descriptors: moved the merchant descriptor information to the *Merchant Descriptors User Guide*. Chase Paymentech Solutions: added American Express as a supported card type for full authorization reversals. See "Reversing an Authorization," page 25.
December 2018	All processors that support Payment Tokenization: replaced the Payment Tokenization section with "Token Management Service (TMS)," page 89. FDMS South: updated information about support for "Zero Amount Authorizations," page 92.
September 2018	All processors that support special request fields for multiple partial captures: updated the Required/Optional information for **ccCaptureService_sequence** and **ccCaptureService_totalCount** in Table 37, "Request Fields," on page 99. All processors that support Visa debt repayments: added note about the XML schema version to use when using the Simple Order API in XML format. See "Visa Debt Repayments," page 91. FDC Compass: merchant descriptors are not supported in authorization requests. See "FDC Compass Merchant Descriptors," page 79. FDC Nashville Global: updated the information in "Special Request Fields for Multiple Partial Captures," page 35.
June 2018	All processors: added reason code 256. See Appendix M, "Reason Codes," on page 171.
May 2018	FDC Nashville Global: added the **invoiceHeader_customData_1** field. See Table 37, "Request Fields," on page 99.
February 2018	FDC Nashville Global: added the **voidReply_reversalSubmitted** field, which is described in Table 38, "Reply Fields," on page 129.

About This Guide

Audience and Purpose

This guide is written for application developers who want to use the CyberSource Simple Order API to integrate payment card processing into their order management system.

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

Conventions

The following special statements are used in this document:

Note

A *Note* contains helpful suggestions or references to material not contained 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.

The following text conventions are used in this document:

Table 1 Text Conventions

Convention	Meaning
bold	Field and service names in text; for example: Include the **ccAuthService_run** field.
`screen text`	■ XML elements ■ Code examples ■ Values for API fields; for example: Set the **ccAuthService_run** field to `true`.

Related Documentation

- *Getting Started with CyberSource Essentials* describes how to get started using the Simple Order API. (PDF | HTML)
- The *Reporting User Guide* describes how to download reports. (PDF | HTML)
- The *Secure Acceptance Checkout API Integration Guide* describes how to create a Secure Acceptance Silent Order POST profile. (PDF | HTML)
- The *Secure Acceptance Hosted Checkout Integration Guide* describes how to create a Secure Acceptance Web/Mobile profile. (PDF | HTML)
- The CyberSource API Versions page provides information about the CyberSource API versions.

Refer to the Support Center for complete CyberSource technical documentation:

http://www.cybersource.com/support_center/support_documentation

Customer Support

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

http://www.cybersource.com/support

CHAPTER 1

Introduction to the Credit Card Services

Cards and Payment Methods

The credit card services can be used to process the types of cards and payment methods described in the following table.

Table 2 Cards and Payment Methods Processed with Credit Card Services

Card or Payment Method	Description
Credit cards	CyberSource can accept payments made with numerous types of credit cards, including Visa®, Mastercard®, American Express®, Discover®, Diners Club®, and JCB®.
Debit cards and prepaid cards	Prepaid cards, Visa-branded debit cards, and Mastercard-branded debit cards can be processed with the credit card services. See Chapter 4, "Features for Debit Cards and Prepaid Cards," on page 52.
Quasi-cash	A quasi-cash transaction is a cash-like transaction for the sale of items that are directly convertible to cash. See "Quasi-Cash," page 82.

Discover Acquisitions and Alliances

Discover has acquired or entered into alliances with the payment card companies shown in the following table.

Table 3 Discover Acquisitions and Alliances

Card Type	Description
China UnionPay Alliance	In 2005, China UnionPay and Discover announced a strategic alliance whereby China UnionPay cards would be routed to the Discover Network. As a result of this alliance: ■ If you have been accepting Discover but not China UnionPay, you are now able to accept and process China UnionPay cards that have been reissued with Discover bank identification numbers (BINs). ■ If you have been accepting China UnionPay but not Discover, you are now able to accept Discover cards.
Diners Club Acquisition	In July 2008, Discover acquired Diners Club International whereby Diners Club cards would be routed to the Discover Network starting October 16, 2009. As a result of this acquisition: ■ If you have been accepting Discover but not Diners Club, you are now able to accept Diners Club cards. ■ If you have been accepting Diners Club but not Discover, you are now able to accept Discover cards.
JCB (US Domestic) Alliance	In December 2006, JCB and Discover announced a strategic alliance whereby JCB cards would be routed to the Discover Network in the U.S. and select U.S. Territories (Puerto Rico, Guam, U.S. Virgin Islands, Northern Mariana Islands) that authorize, process, and fund in USD. As a result of this alliance: ■ If you have been accepting Discover but not JCB, you are now able to accept JCB cards. ■ If you have been accepting JCB but not Discover, you are now able to accept Discover cards.

For some card types on some processors, the information in your CyberSource account must include processor-issued IDs for these transactions to be processed successfully. Call CyberSource Customer Support to update your account information.

As a result of these 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.


Note

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


Note

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.

Mastercard 2-Series Bank Identification Numbers

Mastercard expanded the BIN range by introducing BINs in the 222100-272099 range. Cards containing the 2-series BINs were issued in 2017.

Effective October 2016, Mastercard requires processors, acquirers, issuers, and merchants to support the 2-series BINs. Mastercard transactions on the 2-series primary account numbers (PANs) must be accepted, routed, and processed, and they must operate with the same rules that apply to the existing 5-series BINs.

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:

- Use the credit card services described in this guide.
- Provide card-present data as described in the *Card-Present Transactions Supplement*.

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. CyberSource offers features, such as Address Verification System (AVS) and Card Verification Numbers (CVN), in the credit card services that can reduce that risk by checking the validity of the customer's information and notifying you when discrepancies occur. For descriptions of AVS and CVN, see Chapter 3, "Authorization Features," on page 43.

Transactions with Special Data

The credit card services can process these types of special data:

- Level II and Level III data: see the *Level II and Level III Transactions Supplement*.
- Card-present data: see *Card-Present Transactions Supplement*.

Banks and Associations

Note 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.

Note Each acquiring bank has connections to a limited number of payment processors. You must choose a payment processor that your acquiring bank supports. See "Payment Processors," page 18.

Expect to be charged the fees shown in the following table.

Table 4 Fees

Fee	Description
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. In the event that credit card chargebacks become excessive, CyberSource can require you to undertake business process changes to reduce chargebacks. If the chargebacks are not reduced to a satisfactory level, CyberSource can terminate your account.

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 CyberSource for information about CyberSource 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 use CyberSource to process cards from these companies, you must sign agreements with the companies.

Services

The credit card services are:

- Authorization: see "Authorizing a Payment," page 21.
- Full authorization reversal: see "Reversing an Authorization," page 25.
- Capture: see "Capturing an Authorization," page 29.
- Credit: see "Crediting a Payment," page 38.
- Void: see "Voiding a Capture or Credit," page 41. This service is not restricted to the credit card services; it can also be used for other payment methods.

You can also request an authorization and capture together. See "Performing a Sale," page 37.

Order Tracking

See *Getting Started with CyberSource Essentials* for information about order tracking. This section provides the names of the API fields that are used for order tracking for the credit card services.

Request IDs

For all CyberSource services, the request ID is returned in the reply messages in **requestID**. The following table lists the fields for the request IDs in request messages.

Table 5 Fields for Request IDs in Request Messages

Service	Request ID Field
Authorization reversal	ccAuthReversalService_authRequestID
Capture	ccCaptureService_authRequestID
Credit	ccCreditService_captureRequestID
Void	voidService_voidRequestID

Reconciliation IDs

The following table lists the fields for the reconciliation IDs, which are returned in the reply messages.

Table 6 Fields for Reconciliation IDs

Service	Reconciliation ID Field	Notes
Authorization	ccAuthReply_reconciliationID	For authorization requests, the reconciliation ID is returned only for these processors: ■ Chase Paymentech Solutions ■ FDC Compass ■ FDC Nashville Global
Capture	ccCaptureReply_reconciliationID	The reconciliation ID is returned for all capture requests for all processors except RBS WorldPay Atlanta. When you perform multiple partial captures for an authorization, each reply includes a different reconciliation ID for each capture request. To learn whether your processor supports multiple partial captures, see Table 13, "Capture Information for Specific Processors," on page 32.
Credit	ccCreditReply_reconciliationID	The reconciliation ID is returned for all credit requests for all processors.

Payment Processors

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

Payment processors connect CyberSource servers 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.

CyberSource does not necessarily support all the features that are offered by each processor. This guide describes the payment processing features supported by CyberSource. The beginning of each feature description specifies which payment processors support the feature.

Your processor provides you with unique identification numbers for your account. You must provide these identification numbers to CyberSource Customer Support.

The following table lists the processors and corresponding card types that CyberSource supports for the credit card services.

Note

Only the card types explicitly listed here are supported.

Table 7 Payment Processors and Card Types

Payment Processor	Supported Card Types & Notes
Chase Paymentech Solutions	Visa, Mastercard, American Express, Discover, Diners Club, JCB, Carte Blanche
FDC Compass	Visa, Mastercard, American Express, Discover, Diners Club, JCB
FDC Nashville Global	Visa, Mastercard, American Express, Discover, Diners Club, JCB
FDMS Nashville	Visa, Mastercard, American Express, Discover, Diners Club, Carte Blanche, JCB
FDMS South	Visa, Mastercard, American Express, Discover, Diners Club, Carte Blanche, JCB **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 CyberSource Customer Support to have your CyberSource 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, CyberSource recommends that you change your processor to FDC Nashville Global, FDMS Nashville, or FDC Compass.
GPN GPN is the CyberSource name for Global Payments, Inc.'s East processing platform.	Visa, Mastercard, American Express, Discover, Diners Club, JCB **Note** USD is the only currency supported with American Express, Discover, Diners Club, and JCB. With Visa and Mastercard, you can use any currency that is supported by both GPN and CyberSource.

Table 7 Payment Processors and Card Types (Continued)

Payment Processor	Supported Card Types & Notes
RBS WorldPay Atlanta	Visa, Mastercard, American Express, Discover, Diners Club, JCB
TSYS Acquiring Solutions	Visa, Mastercard, American Express, Discover, Diners Club, Carte Blanche, JCB

CHAPTER 2

Payment Card Processing

Authorizing a Payment

CyberSource supports authorizations for all processors.

Online Authorizations

Online authorization means that when you submit an order using a payment card, you receive an immediate confirmation about the availability of the funds. If the funds are available, the issuing bank reduces your customer's open to buy, which is the amount of credit available on the card. Most of the common payment cards are processed online. For online authorizations, you typically start the process of order fulfillment soon after you receive confirmation of the order.

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.

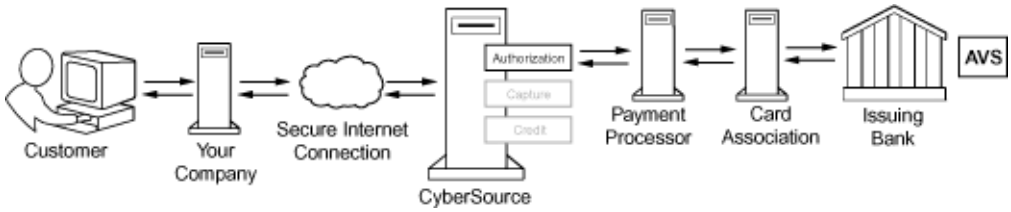

Note

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

When an authorization expires with the issuing bank, your bank or processor might require you to resubmit an 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 credit card authorization.

Figure 1 Processing an Online Authorization



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

2 You send a request for authorization over a secure Internet connection. When the customer buys a digitally delivered product or service, you can request both 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 then contacts your payment processor and requests authorization.

4 The processor sends the transaction to the payment card company, which routes it to the issuing bank for 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 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. See Chapter 3, "Authorization Features," on page 43.

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 details about partial authorizations and for a list of the processors and card types supported for partial authorizations, see "Partial Authorizations," page 52.

Note 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. See "Partial Authorizations," page 52, and "Balance Responses," page 57.

6 CyberSource runs its own tests then tells you whether the authorization succeeded.

Offline Authorizations

Offline authorization means that when you submit an order using a payment card, you do not know whether the funds are available until you capture the order and receive confirmation of payment. You typically do not ship the goods until you receive this payment confirmation. For offline payment cards, it usually takes five days longer to receive payment confirmation than for online cards.

Creating an Authorization Request

Step 1 Do not include any of these services in the request:

- Full authorization reversal (**ccAuthReversalService**)
- Credit (**ccCreditService**)
- Services for other payment methods, such as electronic checks or PayPal

Step 2 Include the required fields in the request:

Table 8 Required Fields for Authorizations

Field	Notes
billTo_city[1]	
billTo_country[1]	
billTo_email[1]	
billTo_firstName[1]	
billTo_lastName[1]	
billTo_postalCode[1]	Required only for transactions in the U.S. and Canada.
billTo_state[1]	Required only for transactions in the U.S. and Canada.
billTo_street1[1]	
card_accountNumber	
card_cardType	Required for certain card types. CyberSource strongly recommends 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.
card_expirationMonth[1]	
card_expirationYear[1]	
ccAuthService_run	Set to `true`.

1 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 8 Required Fields for Authorizations (Continued)

Field	Notes
merchantID	
merchantReferenceCode	
purchaseTotals_currency	
purchaseTotals_ grandTotalAmount	Either **purchaseTotals_grandTotalAmount** or **item_#_ unitPrice** must be included in the request.

1 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

See Appendix A, "API Fields," on page 97 for:

- Detailed descriptions of these required request fields
- Optional request fields
- Reply fields

Step 3 If needed, modify the request to accommodate additional information for your processor. See "Authorization Information for Specific Processors," page 25.

Step 4 Include authorization features in the request.

There are several authorization features that can be performed automatically depending on the information included in your request. These features are described in Chapter 3, "Authorization Features," on page 43.

Step 5 Include optional features in the request.

There are several optional features that you can include in your request. These features are described in Chapter 5, "Optional Features," on page 60.

Authorization Information for Specific Processors

The following table provides additional information about authorizations for specific processors.

Table 9 Authorization Information for Specific Processors

Payment Processor	Authorization Information
GPN	GPN limits the authorization, capture, and credit amounts to 10 digits.
RBS WorldPay Atlanta	RBS WorldPay Atlanta limits the authorization, capture, and credit amounts to the equivalent of 999,999.99 USD. Depending on the value you send, the decimal is either truncated or appended. For example, if you send 1.123 the decimal is truncated to 1.12. If you send 123 it is converted to 123.00.
TSYS Acquiring Solutions	TSYS Acquiring Solutions limits authorization and capture amounts to the equivalent of 99,999.99 USD. To process an amount greater than this, contact TSYS Acquiring Solutions.

Reversing an Authorization

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

Note

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. See "Authorization Reversal after Void (ARAV)," page 29. 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.

Supported Processors and Card Types

The following table lists the processors that are supported for full authorization reversals. 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.

Table 10 Processors That Support Full Authorization Reversals

Processor	Card Types and Notes
Chase Paymentech Solutions	Card types supported for full authorization reversals: Visa, Mastercard, American Express, Discover, and Diners Club. Time limit: a full authorization reversal must occur within three days of the authorization. **Important** ARAV is supported. See "Authorization Reversal after Void (ARAV)," page 29.
FDC Compass	Card types supported for full authorization reversals: Visa, Mastercard, American Express, Discover, Diners Club, and JCB. Time limit: a full authorization reversal must occur within three days of the authorization. **Important** ARAV is supported. See "Authorization Reversal after Void (ARAV)," page 29.
FDC Nashville Global	Card types supported for full authorization reversals: Visa, Mastercard, American Express, Discover, Diners Club, 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. **Important** ARAV is supported. See "Authorization Reversal after Void (ARAV)," page 29.
FDMS Nashville	Card types supported for full authorization reversals: Visa, Mastercard, Discover, Diners Club, 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. **Important** ARAV is supported. See "Authorization Reversal after Void (ARAV)," page 29.

Table 10 Processors That Support Full Authorization Reversals (Continued)

Processor	Card Types and Notes
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. ■ 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. **Important** ARAV is supported. See "Authorization Reversal after Void (ARAV)," page 29.
GPN	Card types supported for full authorization reversals: Visa, Mastercard, Discover, Diners Club, and JCB. **Important** ARAV is supported. See "Authorization Reversal after Void (ARAV)," page 29.
RBS WorldPay Atlanta	Card types supported for full authorization reversals: Visa, Mastercard, American Express, and Discover.
TSYS Acquiring Solutions	Card types supported for full authorization reversals: Visa, Mastercard, American Express, Discover, Diners Club, and JCB. **Important** ARAV is supported. See "Authorization Reversal after Void (ARAV)," page 29.

Creating a Full Authorization Reversal Request

A full authorization reversal is a follow-on transaction that uses the request ID returned from a previous authorization. The request ID links the full authorization reversal to the authorization. CyberSource uses the request ID to look up the customer’s billing and account information from the original authorization, so you are not required to include those fields in your full authorization reversal request.

For information about requesting a follow-on service, see *Getting Started with CyberSource Essentials*.

To create a full authorization reversal request:

Step 1 Do not include any other CyberSource services in the request.

Step 2 Include the required fields in the request:

Table 11 Required Fields for Full Authorization Reversals

Field	Notes
ccAuthReversalService_ authRequestID	Set to the request ID that was included in the authorization reply message.
ccAuthReversalService_run	Set to `true`.
merchantID	
merchantReferenceCode	
purchaseTotals_currency	
purchaseTotals_ grandTotalAmount	Either **purchaseTotals_grandTotalAmount** or **item_#_ unitPrice** must be included in the request.

See Appendix A, "API Fields," on page 97 for:

- Detailed descriptions of these required request fields
- Optional request fields
- Reply fields

Step 3 Make sure that the amount of the reversal is 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.

Authorization Reversal after Void (ARAV)

Processors:

- Chase Paymentech Solutions
- FDC Compass
- FDC Nashville Global
- FDMS Nashville
- FDMS South
- GPN
- TSYS Acquiring Solutions

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

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

To reverse an authorization after a void:

Step 1 Void a capture. See "Voiding a Capture or Credit," page 41.

Step 2 Reverse the authorization associated with the capture. See "Reversing an Authorization," page 25.

Note You might need to perform additional steps if you performed multiple partial captures for the authorization. To learn whether your processor supports multiple partial captures, see "Multiple Partial Captures," page 35. For information about multiple captures and ARAV, see "Multiple Partial Captures and Authorization Reversal after Void," page 36.

Capturing an Authorization

CyberSource supports captures for all processors.

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.

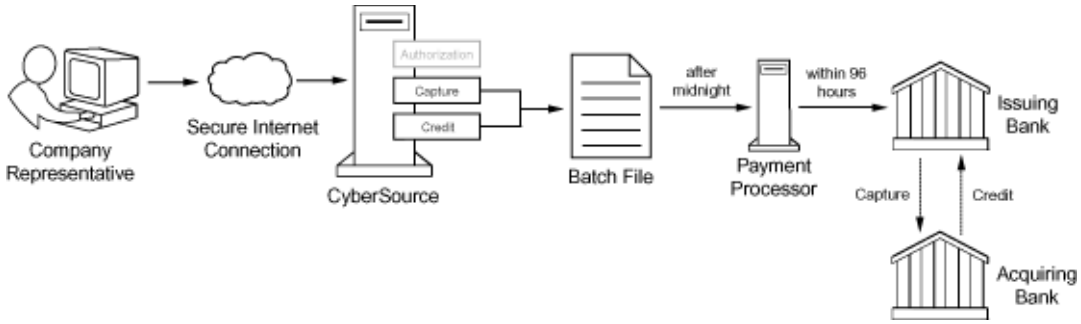
When fulfilling only part of a customer's order, do not capture the full amount of the authorization. Capture only the cost of the items that you ship. When you ship the remaining items, request a new authorization, and then capture the new authorization.

Captures

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 in your merchant bank account.

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

Figure 2 Processing a Capture or Credit



1. You send a request for capture or credit over a secure Internet connection.
2. CyberSource validates the order information then stores the capture or credit request in a batch file.
3. After midnight, CyberSource sends the batch file to your payment processor.
4. The processor settles the capture or credit request and transfers funds to the appropriate bank account.

Note The processor does not notify CyberSource when a transaction is declined. To ensure that all captures and credits are processed, reconcile your system's reports with the reports from your processor. See *Getting Started with CyberSource Essentials* for information about reconciliation.

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.

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

Creating a Capture Request

A capture is a follow-on transaction that uses the request ID returned from a previous authorization. The request ID links the capture to the authorization. CyberSource uses the request ID to look up the customer's billing and account information from the original authorization, so you are not required to include those fields in your capture request.

For information about requesting a follow-on service, see *Getting Started with CyberSource Essentials*.

To create a capture request:

Step 1 Do not include any of these services in the request:

- Full authorization reversal (**ccAuthReversalService**)
- Credit (**ccCreditService**)
- Services for other payment methods, such as electronic checks or PayPal

Step 2 Include the required fields in the request:

Table 12 Required Fields for Captures

Field	Notes
ccCaptureService_run	Set to `true`.
ccCaptureService_ authRequestID	Set to the request ID that was included in the authorization reply message. Optional when **ccAuthService** and **ccCaptureService** are in the same request.
merchantID	
merchantReferenceCode	
purchaseTotals_currency	
purchaseTotals_ grandTotalAmount	Either **purchaseTotals_grandTotalAmount** or **item_#_unitPrice** must be included in the request.

See Appendix A, "API Fields," on page 97 for:

- Detailed descriptions of these required request fields
- Optional request fields
- Reply fields

Step 3 If needed, modify the request to accommodate additional information for your processor. See Table 13, "Capture Information for Specific Processors," on page 32.

Step 4 Include optional features in the request.

There are several optional features that you can include in your request. These features are described in Chapter 5, "Optional Features," on page 60.

Capture Information for Specific Processors

The following table provides additional information about captures for some processors.

Table 13 Capture Information for Specific Processors

Payment Processor	Capture Information
Chase Paymentech Solutions	Multiple partial captures are supported. See "Multiple Partial Captures," page 35. **Important** ARAV is supported. See "Multiple Partial Captures and Authorization Reversal after Void," page 36.
FDC Compass	Multiple partial captures are supported. See "Multiple Partial Captures," page 35. Special request fields for multiple partial captures are recommended. See "Special Request Fields for Multiple Partial Captures," page 35. **Important** ARAV is supported. See "Multiple Partial Captures and Authorization Reversal after Void," page 36.
FDC Nashville Global	CyberSource always provides merchant descriptor information to the processor for you for all capture and credit transactions. See "Merchant Descriptors," page 72. **Important** ARAV is supported. See "Authorization Reversal after Void (ARAV)," page 29.
FDMS Nashville	**Important** ARAV is supported. See "Authorization Reversal after Void (ARAV)," page 29.
FDMS South	**Important** ARAV is supported. See "Authorization Reversal after Void (ARAV)," page 29.
GPN	GPN limits the authorization, capture, and credit amounts to 10 digits. Multiple partial captures are supported. See "Multiple Partial Captures," page 35. **Important** ARAV is supported. See "Multiple Partial Captures and Authorization Reversal after Void," page 36.

Table 13 Capture Information for Specific Processors (Continued)

Payment Processor	Capture Information
TSYS Acquiring Solutions	Multiple partial captures are supported. See "Multiple Partial Captures," page 35. Special request fields for multiple partial captures are required. See "Special Request Fields for Multiple Partial Captures," page 35. **Important** ARAV is supported. See "Multiple Partial Captures and Authorization Reversal after Void," page 36.

Capture Features

Automatic Partial Authorization Reversals

Processors and card types:

See the following table.

Table 14 Processors That Support Automatic Partial Authorization Reversals

Processor	Card Types
Chase Paymentech Solutions[1]	Visa, Mastercard
FDC Compass[1]	Visa, Mastercard
FDC Nashville Global	Visa, Mastercard, Discover, Diners Club, JCB (US Domestic)[2]
FDMS Nashville	Visa, Mastercard, Discover, Diners Club, JCB (US Domestic)[2]
FDMS South	Visa, Mastercard, Discover, JCB (US Domestic)[2]
GPN	Visa, Mastercard On GPN, automatic partial authorization reversal is performed as part of interchange optimization, which is described in "Interchange Optimization," page 34.
TSYS Acquiring Solutions	Visa, Mastercard, Discover, Diners Club, JCB

1 The processor performs an automatic partial authorization reversal when there is an interchange benefit. The processor does not allow CyberSource to perform this functionality.

2 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.

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

- Debit cards and prepaid cards: see Chapter 4, "Features for Debit Cards and Prepaid Cards," on page 52.
- Quasi-cash: see "Quasi-Cash," page 82.

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.

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

Interchange Optimization

Processor:

- GPN acquiring merchants: Visa, Mastercard

Interchange optimization helps you reduce your interchange fees. Interchange optimization consists of:

- Automatic authorization refresh: When the capture request occurs more than six days after the date of the original authorization, CyberSource automatically obtains a fresh authorization for the capture amount.

  On GPN, the fresh authorization uses the same authorization indicator as the original authorization. For more information, see "Final Authorization Indicator," page 65.

- Automatic partial authorization reversal: If the capture does not need a fresh authorization but the capture amount is less than the authorization amount, CyberSource automatically performs a partial authorization reversal which releases the hold on unused credit card funds and ensures that the settlement amount matches the authorization amount.

Note Interchange optimization does not work for card-present transactions.

To enable interchange optimization, contact CyberSource Customer Support to have your account configured for this feature.

Multiple Partial Captures

Processors:

- Chase Paymentech Solutions
- FDC Compass
- FDC Nashville Global: multiple partial captures are supported only for card-not-present transactions; they are not supported for card-present transactions.
- FDMS Nashville: multiple partial captures are supported only for card-not-present transactions; they are not supported for card-present transactions.
- TSYS Acquiring Solutions

This feature enables you to request multiple partial captures for one authorization. You must ensure that the total amount of all the captures does not exceed the authorized amount.

Special Request Fields for Multiple Partial Captures

Processors:

- FDC Compass. To avoid a downgrade for a Visa transaction, the special request fields are required. For other card types, CyberSource strongly recommends that you include the special request fields.
- FDC Nashville Global. The special request fields are required for all card types:
  - For Visa and Mastercard, CyberSource sends the values for the special request fields to the processor.
  - For all card types, CyberSource uses the values for the special request fields to determine whether to initiate an automatic partial authorization reversal as described in "Automatic Partial Authorization Reversals," page 33.
- FDMS Nashville. The special request fields are required for Visa and Mastercard transactions. They are not supported for other card types.
- TSYS Acquiring Solutions. The special request fields are required.

Include the following special request fields in each capture request when you are requesting multiple partial captures:

- ccCaptureService_sequence
- ccCaptureService_totalCount

When you do not know the total number of captures that you are going to request, set the capture total count to an estimated value or 99 for all capture requests except the final one. For the final capture request, set the capture total count and the capture sequence to the same value.

Multiple Partial Captures and Authorization Reversal after Void

Processors:

- Chase Paymentech Solutions
- FDC Compass
- FDC Nashville Global
- FDMS Nashville
- GPN
- TSYS Acquiring Solutions

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

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

For an authorization that has multiple associated captures:

- If you reverse the authorization, CyberSource declines subsequent capture requests.
- If you void only one of the multiple captures, CyberSource declines subsequent authorization reversal requests.
- If you void all of the multiple captures, you can reverse the authorization.

To reverse an authorization after a void for multiple captures:

Step 1 Void each capture associated with the authorization. See "Voiding a Capture or Credit," page 41.

Step 2 Reverse the authorization. See "Reversing an Authorization," page 25.

Performing a Sale

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 if there is no delay between taking a customer's order and shipping the goods. A sale is typically used for electronic goods and for services that you can turn on immediately.

To perform a sale, request the authorization and capture services at the same time. Include the request fields that are required for the authorization. No additional fields are required for the capture.

If the authorization is successful, CyberSource processes the capture immediately and the reply message includes results for the authorization and for the capture. If the authorization is declined, CyberSource does not process the capture and the reply message includes results only for the authorization.

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. When this happens, CyberSource does not process the capture. However, you can submit a capture request for the approved amount. For details about partial authorizations and for a list of the processors and card types supported for partial authorizations, see "Partial Authorizations," page 52.

Note For a limited number of processors and card types, partial authorizations are supported for credit cards in addition to debit cards and prepaid cards. See "Partial Authorizations," page 52.

For details about authorizations and captures, see "Authorizing a Payment," page 21, and "Capturing an Authorization," page 29.

Crediting a Payment

CyberSource supports credits for all processors.

When your 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.

Warning

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

Credit requests are batched in the same manner as captures. See "Captures," page 30.

Types of Credits

A *follow-on credit* is linked to a capture in the CyberSource system. You can request multiple follow-on credits against a single capture. You must request a follow-on credit within 60 days of the authorization.

Important

When you combine a request for a follow-on credit with a request for another service, you must provide the customer's billing and account information.

A *stand-alone credit* is not linked to a capture. There is no time limit for requesting stand-alone credits. Instead of sending the request ID field in the credit request, the request must include the fields for the customer's billing and account information.

Note

For stand-alone credits, CyberSource does not validate **billTo_postalCode** or **shipTo_postalCode**.

Creating a Credit Request

A follow-on credit uses the request ID returned from a previous capture to link the credit to the capture. CyberSource uses the request ID to look up the customer's billing and account information from the original authorization, so you are not required to include those fields in your credit request. To perform multiple partial follow-on credits, send the same request ID in each follow-on credit request.

For information about requesting a follow-on service, see *Getting Started with CyberSource Essentials*.

To create a credit request:

Step 1 Do not include any of these services in the request:

- Any other credit card services (**ccAuthService**, **ccAuthReversalService**, or **ccCaptureService**)
- Services for other payment methods, such as electronic checks or PayPal

Step 2 Include the required fields in the request:

Table 15 Required Fields for Credits

Field	Notes
ccCreditService_run	Set to `true`.
ccCreditService_ captureRequestID	For a follow-on credit, set to the request ID that was included in the capture reply message. Not used for a stand-alone credit.
merchantID	
merchantReferenceCode	
purchaseTotals_currency	
purchaseTotals_ grandTotalAmount	Either **purchaseTotals_grandTotalAmount** or **item_#_unitPrice** must be included in the request.

See Appendix A, "API Fields," on page 97 for:

- Detailed descriptions of these required request fields
- Optional request fields
- Reply fields

Step 3 For a stand-alone credit, include additional required fields:

Table 16 Additional Required Fields for Stand-Alone Credits

Field	Notes
billTo_city[1]	
billTo_country[1]	
billTo_email[1]	
billTo_firstName[1]	
billTo_lastName[1]	
billTo_postalCode[1]	Required only for transactions in the U.S. and Canada.
billTo_state[1]	Required only for transactions in the U.S. and Canada.
billTo_street1[1]	
card_accountNumber	
card_cardType	Required for certain card types. CyberSource strongly recommends 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.
card_expirationMonth[1]	
card_expirationYear[1]	

1 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Step 4 If needed, modify the request to accommodate additional information for your processor. See "Credit Information for Specific Processors," page 41.

Step 5 Include optional features in the request. See Chapter 5, "Optional Features," on page 60.

Credit Information for Specific Processors

The following table provides additional information about credits for some processors.

Table 17 Credit Information for Specific Processors

Payment Processor	Credit Information
FDC Nashville Global	CyberSource always provides merchant descriptor information to the processor for you for all capture and credit transactions. See "Merchant Descriptors," page 72.
GPN	GPN limits the authorization, capture, and credit amounts to 10 digits.
RBS WorldPay Atlanta	Follow-on refunds for verbal authorizations are not supported. You must process these refunds as stand-alone refunds.

Voiding a Capture or Credit

CyberSource supports voids for all processors.

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

You cannot perform a follow-on credit for a transaction 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 as described in "Capture after Void," page 41, and if your processor supports authorization reversal after void as described in "Authorization Reversal after Void (ARAV)," page 29, CyberSource recommends that you request an authorization reversal to release the hold on the unused credit card funds.

Capture after Void

If your processor supports multiple captures, you can capture an authorization after you void previous captures associated with the authorization. For example, you can follow these steps:

1. Authorize a payment.
2. Capture the authorization.

3 Void the capture.

4 Capture the authorization again.

To learn whether your processor supports multiple captures, see "Multiple Partial Captures," page 35.

On all other processors, when you void a transaction the transaction is at the end of its life and cannot be the source of another follow-on capture or credit. For example, if you authorize and capture a transaction, and then you void the capture, you cannot submit another capture request that uses the authorization code or CyberSource request ID from the original authorization. If you still want to capture that transaction, you must re-authorize the transaction and capture the new authorization.

Creating a Void Request

A void is a follow-on transaction that uses the request ID returned from a capture or credit. The request ID links the void to the service that is being voided. CyberSource uses the request ID to look up the customer's billing and account information from the capture or credit, so you are not required to include those fields in your void request.

For information about requesting a follow-on service, see *Getting Started with CyberSource Essentials*.

To create a void request:

Step 1 Do not include any other CyberSource services in the request.

Step 2 Include the required fields in the request:

Table 18 Required Fields for Voids

Field	Notes
merchantID	
merchantReferenceCode	
voidService_run	Set to `true`.
voidService_voidRequestID	Set to the request ID that was included in the capture or credit reply message.

See Appendix A, "API Fields," on page 97 for:

- Detailed descriptions of these required request fields
- Reply fields

CHAPTER 3

Authorization Features

You must support the authorization features that your processor supports.

Address Verification System (AVS)

Note AVS is supported only for cards issued in the U.K., the U.S., and Canada.

The following table lists the processors and card types for which CyberSource returns standard AVS results.

Table 19 Processors That Support Standard AVS

Processors	Payment Card Types
Chase Paymentech Solutions	Visa, Mastercard, and American Express: The billing country must be the U.S., Canada, or Great Britain. Discover, Diners Club, and JCB: The billing country must be the U.S.
FDC Compass	Visa, Mastercard, and American Express: The billing country must be the U.S., Canada, or Great Britain. Discover and Diners Club: The billing country must be the U.S.
FDC Nashville Global	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.
FDMS Nashville	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.

Table 19 Processors That Support Standard AVS (Continued)

Processors	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.
GPN	Visa, Mastercard, American Express, Discover, Diners Club, JCB
RBS WorldPay Atlanta	Visa, Mastercard, American Express, Discover, Diners Club
TSYS Acquiring Solutions	Visa, Mastercard, American Express, Diners Club: The billing country must be the U.S.

Relaxed Requirements for Address Data and Expiration Date

To enable relaxed requirements for address data and expiration date, contact CyberSource Customer Support to have your account configured for this feature. For details about relaxed requirements, see the Relaxed Requirements for Address Data and Expiration Date page.

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 reply includes the **ccAuthReply_avsCode** 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. See Appendix D, "AVS Codes," on page 154.

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 **ccAuthReply_avsCodeRaw** 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.

Electronic Verification (EV)

Processors:

- FDC Nashville Global
- TSYS Acquiring Solutions

Card types:

- American Express
- Discover—only on TSYS Acquiring Solutions. Only the first name and last name are checked.

EV confirms the customer's billing information. When a customer provides incorrect information, the transaction might be fraudulent.

Note

As part of EV for TSYS Acquiring Solutions, you can provide the IP address in the **billTo_ipAddress** field. When you provide the IP address, American Express does not send a response for it. Instead, American Express uses the IP address to run a check in their internal database to ensure that the IP address does not match previously fraudulent transactions with the same IP address and is not from countries that American Express has determined to be a high risk for fraud. If, based on the IP address, American Express determines that the transaction is fraudulent or is a high risk for fraud, American Express declines the transaction.

Request Fields

To receive an EV response code for a particular value, you must include that value in your authorization request. Table 20, "Request Fields for Electronic Verification," on page 46 lists the request fields for each value that EV can verify. In the table, the R/O column indicates whether the field is required or optional for the authorization service.

Note

Some merchants use placeholder data for some required fields, such as addresses and phone numbers, because their customers do not provide them with the required information. The benefit of using certain specific placeholder values is that Smart Authorization ignores the values instead of attempting to process them. However, when you use placeholder data in any of the fields that are used for EV, the corresponding EV results are invalid.

Table 20 Request Fields for Electronic Verification

Value That Is Being Verified	R/O for Authorizations	Request Field
Email	R	billTo_email
First name	R	billTo_firstName
Last name	R	billTo_lastName
Phone number	O	billTo_phoneNumber
Postal code	R/O[1]	billTo_postalCode
Street address	R	billTo_street1

1 Required when the billing country is the U.S. or Canada; otherwise, optional.

Reply Fields

For each verified value, EV returns a raw response code and a mapped response code:

- The *raw response code* is the value returned by the processor.
- The *mapped response code* is the pre-defined CyberSource value that corresponds to the raw response code. Appendix H, "Electronic Verification Response Codes," on page 161 describes the mapped response codes.

The following table lists the reply fields for each value that EV can verify.

Table 21 API Fields for Electronic Verification Responses

Value That Is Being Verified	API Field for Mapped Response	API Field for Raw Response
Email	ccAuthReply_evEmail	ccAuthReply_evEmailRaw
First name and last name	ccAuthReply_evName	ccAuthReply_evNameRaw
Phone number	ccAuthReply_evPhoneNumber	ccAuthReply_evPhoneNumberRaw
Postal code	ccAuthReply_evPostalCode	ccAuthReply_evPostalCodeRaw
Street address	ccAuthReply_evStreet	ccAuthReply_evStreetRaw

Card Verification Numbers (CVNs)

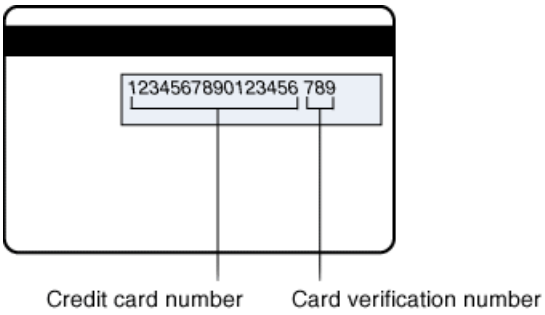
Table 22 Processors That Support CVNs

Processors	Payment Card Types
Chase Paymentech Solutions	Visa, Mastercard, American Express, Discover
FDC Compass	Visa, Mastercard, American Express, Discover
FDC Nashville Global	Visa, Mastercard, American Express, Discover, Diners Club, JCB (US Domestic) **Note** 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.
FDMS Nashville	Visa, Mastercard, American Express, Discover, Diners Club, JCB (US Domestic) **Note** 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.
FDMS South	Visa, Mastercard, American Express, Discover, Diners Club, JCB (US Domestic) **Note** 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.
GPN	Visa, Mastercard, American Express, Discover, Diners Club
RBS WorldPay Atlanta	Visa, Mastercard, American Express, Discover, Diners Club
TSYS Acquiring Solutions	Visa, Mastercard, American Express, Discover, Diners Club

CVN Locations and Terminology

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.

Figure 3 Example of a Visa 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 **card_cvNumber** field in the request. This number is never transferred during card swipes and should be known only by the cardholder.

CVN Codes

The reply 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 **ccAuthReply_cvCodeRaw** 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 CyberSource value that corresponds to the raw response code. This value is returned in the **ccAuthReply_cvCode** field. Appendix G, "CVN Codes," on page 160 describes the mapped response codes.

Even when the CVN does not match the expected value, the issuing bank might still authorize the transaction. You will receive a CVN decline from CyberSource, 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.

Table 23 CVN Results for Each Card Type

Card Type	CVN Results
American Express	A **ccAuthReply_cvCode** value of 1 indicates that your account is not configured for CVN. Contact CyberSource Customer Support to have your account enabled for this feature. To use the CVN with American Express, see "Testing American Express Card Verification," page 96.
Discover	For FDC Nashville Global, FDMS Nashville, and FDMS South: ■ CVN results can be returned for any of the card types on the Discover Network as described in "Discover Acquisitions and Alliances," page 13. ■ The CVN results are returned to you and it is your responsibility to decide whether or not to accept the transaction. For all other processors, when the CVN does not match: ■ Discover refuses the card and the request is declined. ■ The reply message does not include the **ccAuthReply_cvCode** field, which indicates that the CVN failed.
Visa and Mastercard	A CVN code of D or N causes CyberSource to decline the request with reason code 230. You can still capture the transaction, but you must review the order to ensure that it is legitimate. **Note** 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.

Verbal Authorizations

CyberSource supports verbal authorizations for these processors:

- Chase Paymentech Solutions
- FDC Compass
- FDC Nashville Global
- FDMS Nashville
- FDMS South
- GPN
- RBS WorldPay Atlanta
- TSYS Acquiring Solutions

When you request an authorization through CyberSource, the issuing bank might ask you to call the payment processor to answer questions about the transaction. When this happens, the processor gives you a verbal authorization code for the transaction. To capture a verbally authorized transaction, send the verbal authorization code in the capture request. Make sure your customer service and point-of-sale staff can enter verbal authorization codes into your system.

You can use a verbal authorization to capture an authorization that was declined for any of these reasons:

- Verbal authorization required
- Card expired
- Card refused
- Invalid card

Important

Do not confuse verbal authorizations with forced captures:

- With a verbal authorization, you obtain the authorization code directly from the processor or issuing bank after requesting an authorization through CyberSource and receiving a CyberSource decline.
- With a forced capture, you get the authorization code by authorizing a payment outside of CyberSource. See "Forced Captures," page 69.

In both cases, you must follow up with a capture that uses the CyberSource system.

A verbal authorization works as follows:

1. The authorization reply includes reason code 201, which indicates that the issuing bank is requiring a verbal authorization.

   For the American Express card type on FDMS Nashville, the authorization reply also includes a referral response number in **ccAuthReply_referralResponseNumber**. You will be asked for this number, which identifies the failed transaction, when you call American Express for the verbal authorization.

2. You call the processor to answer questions about the transaction.

3. When the processor verbally authorizes the transaction, the processor gives you a verbal authorization code.

4. You include the verbal authorization code in your capture request:

   - Send the verbal authorization code in the **ccCaptureService_verbalAuthCode** field.
   - Send the word `verbal` in the **ccCaptureService_authType** field.

     When you do not set **ccCaptureService_authType** to `verbal`, CyberSource ignores the **ccCaptureService_verbalAuthCode** field.
   - For the American Express card type on FDMS South, the **ccCaptureService_posData** and **ccCaptureService_transactionID** fields are required to comply with the CAPN requirements.

Note American Express has indicated that capture requests submitted without a valid transaction ID, including transactions that originated as verbal authorizations, might incur additional transaction charges. Contact your American Express account representative to learn whether your processing is affected by these additional transaction charges.

CHAPTER 4

Features for Debit Cards and Prepaid Cards

Debit cards and prepaid cards are processed using the credit card services described in this document. This chapter describes the special features that are available for debit cards and prepaid cards: partial authorizations and balance responses.

Note When you use the Simple Order API in XML format, you must use version 1.52 or later of the XML schema to implement partial authorizations or balance responses.

Partial Authorizations

Note 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.

Supported Processors and Card Types

The following table lists the processors and card types for which CyberSource supports partial authorizations. If your processor and card type are not listed in the table, see "Unsupported Processors and Card Types," page 59.

Table 24 Processors Supported for Partial Authorizations

Processor	Card Types for Debit Cards and Prepaid Cards
Chase Paymentech Solutions	Visa, Mastercard, American Express, Discover, Diners Club
FDC Compass[1]	Visa, Mastercard, American Express, Discover
FDC Nashville Global	Visa, Mastercard, American Express, Discover[2], Diners Club[2], JCB (US Domestic)[2,3]
FDMS Nashville	Visa, Mastercard, American Express, Discover[2], Diners Club[2], JCB (US Domestic)[2,3]

Table 24 Processors Supported for Partial Authorizations (Continued)

Processor	Card Types for Debit Cards and Prepaid Cards
FDMS South[4]	Visa, Mastercard, American Express, Discover[2], JCB (US Domestic)[2,3]
GPN	Visa, Mastercard, American Express, Discover, Diners Club, JCB
TSYS Acquiring Solutions	Visa, Mastercard, American Express, Discover, Diners Club, JCB

1 FDC Compass might support partial authorizations for additional card types in the future so be prepared to handle partial authorizations for all card types if your account is enabled for partial authorizations.
2 For this card type on the specified processor, partial authorizations are supported for credit cards in addition to debit cards and prepaid cards.
3 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.
4 FDMS South might support partial authorizations for additional card types in the future so be prepared to handle partial authorizations for all card types if your account is enabled for partial authorizations.

Opting In


Note

If you accept American Express cards and Chase Paymentech Solutions is your processor, see "Special Processing for American Express Cards on Chase Paymentech Solutions," page 55.

You must opt in to be able to receive and capture partial authorizations. There are two ways to opt in:

- You can call CyberSource Customer Support to have your account enabled for partial authorizations. When you do this, all your authorization requests are enabled for partial authorizations.

or

- You can set **ccAuthService_partialAuthIndicator** to `true` in your authorization or sale request. When you do this, only that specific transaction is enabled for partial authorization.

Opting Out

When your account is enabled for partial authorizations, you can disable partial authorization for a specific transaction by setting **ccAuthService_partialAuthIndicator** to `false` in your authorization or sale request.

How a Partial Authorization Works

Note Support for your processor and card type, as listed in Table 24, "Processors Supported for Partial Authorizations," on page 52, 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 **ccAuthService_partialAuthIndicator** to `true` in your request.

Note If you accept American Express cards and Chase Paymentech Solutions is your processor, see "Special Processing for American Express Cards on Chase Paymentech Solutions," page 55.

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

3 The authorization reply message from CyberSource includes:

- ccAuthReply_requestAmount: amount you requested
- ccAuthReply_requestCurrency: currency for the amount you requested
- ccAuthReply_amount: amount that was authorized
- purchaseTotals_currency: currency for the amount that was authorized
- requestID: value you can use to link this authorization request to subsequent transactions

Note If you requested a sale, the authorization was not captured.

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. See "Automatic Partial Authorization Reversals," page 33.

Note 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. See "Reversing an Authorization," page 25.

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 **linkToRequest** field to link the payment requests to the original authorization request. Set **linkToRequest** to the **requestID** value that was returned in the reply message for the original authorization request.

Special Processing for American Express Cards on Chase Paymentech Solutions

If you accept American Express cards and Chase Paymentech Solutions is your processor, perform the following procedure to opt in to partial authorizations.

To opt in to partial authorizations for American Express cards on Chase Paymentech Solutions:

Step 1 Contact Chase Paymentech Solutions to have your account enabled for partial authorizations for the American Express card type. The transaction division for partial authorizations for American Express should be set to 3.

Important This step is only for the American Express card type on Chase Paymentech Solutions. For all other card types on Chase Paymentech Solutions, the transaction division for partial authorizations should be set to the default value of 0 (zero).

Step 2 Contact CyberSource Customer Support to have your account enabled for partial authorizations.

After your accounts have been enabled for partial authorizations at Chase Paymentech Solutions and at CyberSource, you can disable partial authorizations for a specific transaction by setting **ccAuthService_partialAuthIndicator** to `false` in your authorization or sale request.

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. For details about this service and to see the processors and card types for which this service is supported, see "Reversing an Authorization," page 25.

- An *automatic partial authorization reversal* is performed automatically by CyberSource or your processor 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.

  
  Note

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

  For details about automatic partial authorization reversals and for a list of the processors and card types for which it is supported, see "Automatic Partial Authorization Reversals," page 33.

Balance Responses

Note

Normally, balance responses are not returned for debit cards.

When there is a balance remaining on a prepaid card after an authorization, the authorization reply can include the balance amount. Depending on what data your processor sends to CyberSource, the following fields might be included in the reply:

- ccAuthReply_accountBalance: balance amount remaining on the prepaid card after the authorization

  Note

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

- ccAuthReply_accountBalanceCurrency: currency of the balance amount
- ccAuthReply_accountBalanceSign: sign for the balance amount

For descriptions of these fields, see Appendix A, "API Fields," on page 97.

The following table lists the processors and card types for which balance responses are supported. Depending on what data your processor sends to CyberSource, the following fields might be included in the reply.

Table 25 Processors Supported for Balance Responses

Processor	Card Type	Balance Field [1]	Currency Field	Sign Field
Chase Paymentech Solutions	Visa	Yes	Yes	No
	Mastercard	Yes	Yes	No
	American Express	Yes	Yes	No
	Discover	Yes	Yes	No
	Diners Club	Yes	Yes	No
	Maestro (International)	Yes	Yes	No
FDC Compass	Visa	Yes	Yes	No
	Mastercard	Yes	Yes	No
	American Express	Yes	Yes	No
	Discover	Yes	Yes	No

1 For Discover, some processors return the balance in the **ccAuthReply_authorizationCode** field.

Table 25 Processors Supported for Balance Responses (Continued)

Processor	Card Type	Balance Field [1]	Currency Field	Sign Field
FDC Nashville Global	Visa	Yes	Yes	Yes
	Mastercard	Yes	Yes	Yes
	American Express	Yes	Yes	Yes
	Discover	Yes	Yes	Yes
	Diners Club	Yes	Yes	Yes
	JCB	Yes	Yes	Yes
FDMS Nashville	Visa	Yes	Yes	Yes
	Mastercard	No	No	No
	American Express	Yes	Yes	Yes
	Discover	No	No	No
	Diners Club	No	No	No
	JCB	No	No	No
FDMS South	Visa	Yes	Yes	Yes
	Mastercard	No	No	No
	American Express	Yes	Yes	Yes
	Discover	No	No	No
	Diners Club	No	No	No
	JCB	No	No	No
GPN	Visa	Yes	Yes	Yes
	Mastercard	Yes	Yes	Yes
	American Express	Yes	Yes	Yes
	Discover	Yes	Yes	Yes
	Diners Club	Yes	Yes	Yes
	JCB	Yes	Yes	Yes
TSYS Acquiring Solutions	Visa	Yes	Yes	Yes
	Mastercard	Yes	Yes	Yes
	American Express	Yes	Yes	Yes
	Discover	Yes	Yes	Yes
	Diners Club	Yes	Yes	Yes
	JCB	Yes	Yes	Yes

1 For Discover, some processors return the balance in the **ccAuthReply_authorizationCode** field.

Unsupported Processors and Card Types

Prepaid cards and debit cards that do not appear in Table 24, "Processors Supported for Partial Authorizations," on page 52 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.

CHAPTER 5

Optional Features

0 Authorizations

See "Zero Amount Authorizations," page 92.

Aggregator Support

This feature enables a third-party agent to act as a payment aggregator and process payment card transactions for sub-merchants. Independent sales organizations (ISOs) and member service providers (MSPs) are agents that can also leverage these aggregator features.

Contact CyberSource Customer Support to have your account configured for this feature.

Terminology

Table 26 Aggregator Terminology

Term	Definition
aggregator	Also known as *payment aggregator*. Organization that aggregates sub-merchants under a single account and settles funds directly to the sub-merchants. An aggregator is usually an ISO or MSP.
independent sales organization (ISO)	Organization that does one or more of the following: ■ Works with acquirers to sponsor merchant accounts and usually assumes the risks associated with the merchants' processing. ■ Procures new merchant relationships based on contracts with acquirers. ■ Connects with a gateway to process online payment card transactions for small businesses, usually in exchange for a fee or percentage of sales.
member service provider (MSP)	Same as an ISO although an MSP has no financial responsibility to the merchant.
payment facilitator	Payment aggregator.
service provider	Third-party or outsource provider of payment processing services. A service provider typically provides a single service with no role in settling funds to a merchant.
sub-merchant	Merchant whose transactions are submitted to CyberSource by a payment aggregator.
third-party agent	Umbrella term for independent sales organizations, member service providers, payment aggregators, and payment facilitators.

FDC Compass Aggregators

Services:

- Authorization
- Capture
- Credit

Card types:

- American Express
- Mastercard

The following fields are required for aggregator transactions with American Express or Mastercard when requesting an authorization, capture, or credit:

- ccAuthService_aggregatorID—required only for the authorization service
- ccAuthService_aggregatorName—required only for the authorization service with Mastercard
- ccCaptureService_aggregatorID—required only for the capture service
- ccCaptureService_aggregatorName—required only for the capture service with Mastercard
- ccCreditService_aggregatorID—required only for the credit service
- ccCreditService_aggregatorName—required only for the credit service with Mastercard
- invoiceHeader_submerchantCity
- invoiceHeader_submerchantID
- invoiceHeader_submerchantName
- invoiceHeader_submerchantTelephoneNumber

The following fields are optional for aggregator transactions:

- invoiceHeader_submerchantCountry
- invoiceHeader_submerchantEmail
- invoiceHeader_submerchantPostalCode
- invoiceHeader_submerchantState
- invoiceHeader_submerchantStreet
- merchantCategoryCode—supported only for the authorization service

All fields are described in Appendix A, "API Fields," on page 97.

For Mastercard aggregator captures and credits, CyberSource combines the following two values to provide the business name information for the cardholder's statement:

- Aggregator name in the **ccCaptureService_aggregatorName** or **ccCreditService_aggregatorName** field.
- Sub-merchant name in the **invoiceHeader_suberchantName** field.

The total length of the value that CyberSource sends to the processor is 36 characters. It is formatted with an asterisk (*) between the aggregator name and the sub-merchant name:

```
aggregator name*sub-merchant name
```

Because the asterisk uses one character, 37 characters remain for the combined length of the aggregator name and sub-merchant name.

Important

If the combined length of the aggregator name and sub-merchant name exceeds 37 characters, CyberSource declines the transaction.

FDC Nashville Global Aggregators

Services:

- Authorization
- Capture
- Credit

Card types:

- American Express
- Mastercard

The following fields are required for aggregator transactions with American Express or Mastercard when requesting an authorization, capture, or credit:

- ccAuthService_aggregatorID—required only for the authorization service
- ccAuthService_aggregatorName—required only for the authorization service
- ccCaptureService_aggregatorID—required only for the capture service
- ccCaptureService_aggregatorName—required only for the capture service
- ccCreditService_aggregatorID—required only for the credit service
- ccCreditService_aggregatorName—required only for the credit service
- invoiceHeader_submerchantCity
- invoiceHeader_submerchantCountry
- invoiceHeader_submerchantEmail
- invoiceHeader_submerchantID
- invoiceHeader_submerchantName
- invoiceHeader_submerchantPostalCode
- invoiceHeader_submerchantState
- invoiceHeader_submerchantStreet
- invoiceHeader_submerchantTelephoneNumber
- merchantCategoryCode

The following fields are optional for aggregator transactions:

- invoiceHeader_submerchantMerchantID—supported only for American Express
- invoiceHeader_submerchantRegion

All fields are described in Appendix A, "API Fields," on page 97.

AVS Only

See "Zero Amount Authorizations," page 92.

Bill Payments with Visa

See "Visa Bill Payments," page 90.

Card-Present Data

See the *Card-Present Transactions Supplement*.

Card Type Indicators (CTIs)

Service:

- Authorization

Processor:

- Chase Paymentech Solutions


Note

Contact your processor to have your account configured for this feature.

Contact CyberSource Customer Support to have your account configured for this feature.

This feature enables you to receive CTI information in your authorization reply messages. The processor can provide CTI information for approved or declined transactions, not for rejected transactions.

The CTI information is returned in the following fields:

- ccAuthReply_affluenceIndicator
- ccAuthReply_cardCommercial
- ccAuthReply_cardHealthcare
- ccAuthReply_cardIssuerCountry
- ccAuthReply_cardLevel3Eligible
- ccAuthReply_cardPayroll
- ccAuthReply_cardPINlessDebit
- ccAuthReply_cardPrepaid
- ccAuthReply_cardRegulated
- ccAuthReply_cardSignatureDebit

The CTI fields are described in Appendix A, "API Fields," on page 97.

To receive CTI information:

Your authorization request message must comply with the CTI acceptance criteria as described in the following table.

Table 27 CTI Acceptance Criteria

Card Type	Acceptance Criteria
American Express	CTI is not supported.
Carte Blanche	CTI is not supported.
Diners Club	Currency is USD or CAD.
Discover	Currency is USD or CAD.
JCB	Currency is USD.
Mastercard	Any currency.
Visa	Amount is not 0 (zero). Any currency.

Customer Profiles

See "Payment Tokenization," page 82.

Final Authorization Indicator

Service:

- Authorization

Processors:

- Chase Paymentech Solutions
- FDC Compass
- FDC Nashville Global
- FDMS Nashville
- GPN
- TSYS Acquiring Solutions

Card type:

- Mastercard

This feature supports a mandate from Mastercard. The purpose of the mandate is to ensure that a customer's funds are available when there is a risk that the order will not be fulfilled.

For an authorization with an amount greater than zero, Mastercard recommends that you indicate whether the authorization is a final authorization, a preauthorization, or an undefined authorization.

Final Authorizations

For a final authorization:

- Authorization amount is greater than zero.
- Authorization amount is the final amount that the customer agrees to pay.
- Authorization should not be cancelled after it is approved except when a system failure occurs.
- Authorization must be submitted for capture within seven calendar days of its request.
- Capture amount and currency must be the same as the authorization amount and currency.
- Chargeback protection is in effect for seven days following the authorization.

Preauthorizations

For a preauthorization:

- Authorization amount is greater than zero.
- Authorization amount can be an estimate when the final amount is unknown, which is typical for hotel, auto rental, e-commerce, and restaurant transactions.
- Authorization must be submitted for capture within 30 calendar days of its request.
- When you do not capture the authorization, you must reverse it.

Note

Mastercard charges an additional fee for a preauthorization that is not captured and not reversed.

- Chargeback protection is in effect for 30 days following the authorization.

Undefined Authorizations


Note

Undefined authorizations are not supported on the following processors:

- Chase Paymentech Solutions
- FDC Compass
- FDC Nashville Global
- FDMS Nashville

For an undefined authorization:

- Authorization amount is greater than zero.
- Authorization amount can be different from the final transaction amount.
- Authorization should not be cancelled after it is approved except when a system failure occurs.
- Authorization must be submitted for capture within seven calendar days of its request.
- When you do not capture the authorization, you must reverse it; otherwise, Mastercard charges an additional fee for the transaction.
- Chargeback protection is in effect for seven days following the authorization.


Note

An authorization is undefined when you set the default authorization type in your CyberSource account to `undefined` and do not include the **authIndicator** field in the authorization request. To set the default authorization type in your CyberSource account, contact CyberSource Customer Support.

Unmarked Authorizations


Note

Unmarked authorizations are supported only on the following processors:

- Chase Paymentech Solutions
- FDC Compass
- FDC Nashville Global
- FDMS Nashville

For an unmarked authorization:

- CyberSource does not set a mark or indicator for the type of authorization in the request that is sent to the processor.
- Authorization amount is greater than zero.
- Authorization amount can be different from the final transaction amount.
- Your acquirer processes an unmarked authorization as a final authorization, a preauthorization, or an undefined authorization. Contact your acquirer to learn how they process unmarked authorizations.


Note

An authorization is unmarked when the default authorization type is not set in your CyberSource account and you do not include the **authIndicator** field in the authorization request. To set the default authorization type in your CyberSource account, contact CyberSource Customer Support.

To indicate whether an authorization is a final authorization or a preauthorization:

Step 1 Include the **authIndicator** field in your authorization request. See "Request Fields," page 99, for the field description.

The **authIndicator** field is included in the reply message for the following processors:

- Chase Paymentech Solutions
- FDC Compass
- FDC Nashville Global
- FDMS Nashville

Forced Captures

Service:

- Authorization

Processors:

- Chase Paymentech Solutions
- FDC Nashville Global
- FDMS Nashville
- FDMS South
- GPN
- TSYS Acquiring Solutions

A forced capture occurs when you process an authorization outside the CyberSource system but then capture the order through CyberSource.

To perform a forced capture:

After you process the authorization outside the CyberSource system, request the CyberSource authorization and capture services at the same time as described in "Creating an Authorization Request," page 23, and "Creating a Capture Request," page 31:

- Include the request fields that are required for the authorization.
- Include these fields in the request:

  `ccAuthService_authType=verbal`

  `ccAuthService_verbalAuthCode=` the authorization code you received in the response for the authorization that was processed outside the CyberSource system

- No additional fields are required for the capture.

For the American Express card type on FDMS South, you must include the **ccCaptureService_posData** and **ccCaptureService_transactionID** fields in the capture request to support the CAPN requirements. Obtain the values for these fields from the response for the authorization that was processed outside the CyberSource system.

Installment Payments

Services:

- Authorization
- Capture—only on FDC Nashville Global

Processors and card types:

- See the following table.

Table 28 Processors That Support Installment Payments

Processors	Payment Card Types
Chase Paymentech Solutions	Visa See "Installment Payments on Chase Paymentech Solutions and FDC Compass," page 71.
FDC Compass	Visa See "Installment Payments on Chase Paymentech Solutions and FDC Compass," page 71.
FDC Nashville Global	Visa, 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. "Installment Payments on FDC Nashville Global," page 71.
FDMS Nashville	Visa See "Installment Payments on Other Processors," page 72.
FDMS South	Visa See "Installment Payments on Other Processors," page 72.
TSYS Acquiring Solutions	Visa See "Installment Payments on Other Processors," page 72.

Installment Payments on Chase Paymentech Solutions and FDC Compass

The customer pays for goods or services using an installment plan agreed upon by the customer and you.

To indicate that a transaction on Chase Paymentech Solutions or FDC Compass is an installment payment:

Step 1 Set **ccAuthService_commerceIndicator** to `install`.

Step 2 Include the following required fields in your authorization request:

- invoiceHeader_merchantDescriptor
- invoiceHeader_merchantDescriptorContact

For information about these fields, see *Merchant Descriptors User Guide*.

Step 3 You can include the following optional fields in your authorization request:

- installment_sequence
- installment_totalCount

For information about these fields, see Appendix A, "API Fields," on page 97.

Installment Payments on FDC Nashville Global

The customer pays for goods or services using an installment plan agreed upon by the customer and you.

To indicate that a transaction on FDC Nashville Global is an installment payment:

Step 1 When you request the authorization service, set **ccAuthService_commerceIndicator** to `install`.

Step 2 When you request the capture service, include the following required fields in the request:

- installment_sequence
- installment_totalCount

For information about these fields, see Appendix A, "API Fields," on page 97.

Installment Payments on Other Processors

The customer pays for goods or services using an installment plan agreed upon by the customer and you.

To indicate that a transaction on any other supported processor is an installment payment:

Step 1 Set **ccAuthService_commerceIndicator** to `install`.

Step 2 Include the following required fields in your authorization request:

- installment_sequence
- installment_totalCount

For information about these fields, see Appendix A, "API Fields," on page 97.

JCB J/Secure

See "Payer Authentication," page 75.

Level II Data

See the *Level II and Level III Transactions Supplement*.

Level III Data

See the *Level II and Level III Transactions Supplement*.

Mastercard SecureCode

See "Payer Authentication," page 75.

Merchant Descriptors

See the *Merchant Descriptors User Guide*.

Merchant-Initiated Reversals and Voids

Services:

- Authorization
- Capture
- Credit

Processors:

- Chase Paymentech Solutions
- FDC Nashville Global

When you do not receive a reply message after sending a request to CyberSource, this feature enables you to reverse or void the transaction that you requested.

To use merchant-initiated reversals and voids on all other processors:

Step 1 Include the **merchantTransactionIdentifier** field in your original request for an authorization, capture, sale, follow-on credit, or stand-alone credit.

Note The value of the merchant transaction ID must be unique for 60 days.

Step 2 When you do not receive a reply message for your original transaction request, reverse or void the original transaction as described in the following table.

Transaction to Reverse or Void	Procedure
Authorization	Request the full authorization reversal service as described in "Creating a Full Authorization Reversal Request," page 27. Instead of including the request ID in your request message, include the **merchantTransactionIdentifier** field. The merchant transaction ID links your reversal request to your original request.
Capture or sale	1 Request the void service as described in "Creating a Void Request," page 42. Instead of including the request ID in your request message, include the **merchantTransactionIdentifier** field. The merchant transaction ID links your void request to your original request. 2 Request the authorization reversal service as described in "Creating a Full Authorization Reversal Request," page 27. Instead of including the request ID in your request message, include the **merchantTransactionIdentifier** field. The merchant transaction ID links your reversal request to your original request.
Credit	Request the void service as described in "Creating a Void Request," page 42. Instead of including the request ID in your request message, include the **merchantTransactionIdentifier** field. The merchant transaction ID links your void request to your original request.

Step 3 If the original transaction failed, the reply message for the reversal or void request includes the following fields:

- originalTransaction_amount
- originalTransaction_reasonCode

Micropayments

Services:

- Authorization
- Capture
- Credit

Processors:

- Most of the card types and processors that are supported by CyberSource

Micropayments are payments for less than one unit in the transaction's currency.

Payer Authentication

Important

Before you implement payer authentication, you must contact CyberSource Customer Support to have your account configured for this feature.

When you request an authorization using a supported card type and a supported processor, you can include payer authentication data in the request. You can use the CyberSource payer authentication services to add Verified by Visa, JCB J/Secure™, or Mastercard® SecureCode™ support to your web site without running additional software on your own server. For a description of the CyberSource payer authentication services, see *Payer Authentication Using the Simple Order API*.

Verified by Visa

Service:

- Authorization

Processors:

- Chase Paymentech Solutions
- FDC Compass
- FDC Nashville Global
- FDMS Nashville
- FDMS South
- GPN
- RBS WorldPay Atlanta
- TSYS Acquiring Solutions

Verified by Visa reduces the risk of unauthorized use of a cardholder account. Verified by Visa enables you to verify a customer's identity through the use of a password and provides results to you in real time during the checkout process. For details about signing up for and using Verified by Visa, contact your acquiring bank or go to the Visa web site:

http://visa.com/

To request the authorization of a Verified by Visa transaction:

Step 1 Add the fields listed in the following table to your **ccAuthService** request. The values for these fields are in the reply from the validate authentication service **payerAuthValidateService**. When you request **payerAuthValidateService** and **ccAuthService** together, the data is automatically passed from one service to the other.

Table 29 Request Fields for Verified by Visa and JCB J/Secure

Value and Requirements	Request Field for the Authorization Service	Get the Value from this Payer Authentication Reply Field
CAVV—cardholder authentication verification value. This value is a transaction identifier generated by the issuing bank during Verified by Visa or JCB J/Secure payer authentication. Must be 28-character base64 or 40-character hex binary. ■ Used for all processors that support Verified by Visa and/or JCB J/Secure. ■ Required when the commerce indicator is `js`, `vbv`, or `vbv_attempted`. ■ Optional when the commerce indicator is `js_attempted`. ■ For Verified by Visa on FDC Nashville Global, CyberSource sets this field to the value for the transaction identifier (XID) if the XID is present in the authorization request and the CAVV is not present.	ccAuthService_cavv	payerAuthValidateReply_ cavv
ECI—electronic commerce indicator. ■ Used for all processors that support Verified by Visa and/or JCB J/Secure. ■ Always required. ■ Possible values for a Verified by Visa or JCB J/Secure transaction: • `js`: Successful JCB J/Secure transaction. • `js_attempted`: JCB J/Secure transaction was attempted but not authenticated. • `vbv`: Successful Verified by Visa transaction. • `vbv_attempted`: Verified by Visa transaction was attempted but not authenticated.	ccAuthService_ commerceIndicator	payerAuthValidateReply_ commerceIndicator

Table 29 Request Fields for Verified by Visa and JCB J/Secure (Continued)

Value and Requirements	Request Field for the Authorization Service	Get the Value from this Payer Authentication Reply Field
ECI Raw—raw electronic commerce indicator. ■ Used for all processors that support Verified by Visa and/or JCB J/Secure. ■ Required when the payer authentication validation service returns a raw ECI value. ■ Some processors require the raw ECI to guarantee chargeback protection. Contact CyberSource Customer Support for information about your processor's requirements.	ccAuthService_eciRaw	payerAuthValidateReply_eciRaw
XID—transaction identifier. Must be 28-character base64 or 40-character hex binary. ■ Used for all processors that support Verified by Visa and/or JCB J/Secure. ■ Required when the commerce indicator is `js` or `vbv`. ■ Optional when the commerce indicator is `js_attempted` or `vbv_attempted`. ■ For Verified by Visa on FDC Nashville Global, CyberSource sets the cardholder authentication verification value (CAVV) field to the XID value if the XID is present in the authorization request and the CAVV is not present.	ccAuthService_xid	payerAuthValidateReply_xid

JCB J/Secure

Service:

- Authorization

Processor:

- TSYS Acquiring Solutions

JCB J/Secure authenticates the customer by adding a password identification step to the online shopping process. For details about signing up for and using J/Secure, contact your acquiring bank or go to the JCB web site:

http://www.jcb-global.com/

To request the authorization of a JCB J/Secure transaction:

Step 1 Add the fields listed in Table 29, "Request Fields for Verified by Visa and JCB J/Secure," on page 76 to your **ccAuthService** request. The values for these fields are in the reply from the validate authentication service **payerAuthValidateService**. When you request **payerAuthValidateService** and **ccAuthService** together, the data is automatically passed from one service to the other.

Mastercard SecureCode

Service:

- Authorization

Processors:

- Chase Paymentech Solutions
- FDC Compass
- FDC Nashville Global
- FDMS Nashville
- FDMS South
- GPN
- RBS WorldPay Atlanta
- TSYS Acquiring Solutions

Mastercard SecureCode adds security to online transactions by authenticating SecureCode account holders for specific transactions. SecureCode generates a unique, 32-character transaction token, called the account authentication value (AAV), each time a SecureCode-enabled account holder makes an online purchase. The AAV binds the account holder to a specific transaction. SecureCode transactions use the universal cardholder authentication field (UCAF) as a standard to collect and pass AAV data. For details about signing up for and using SecureCode or UCAF, contact your acquiring bank or go to the Mastercard web site:

http://www.mastercard.com/

To request the authorization of a Mastercard SecureCode transaction:

Step 1 Add the fields in Table 30, "Request Fields for Mastercard SecureCode," to your **ccAuthService** request. The values for these fields are in the reply from the validate authentication service **payerAuthValidateService**. When you request **payerAuthValidateService** and **ccAuthService** together, the data is automatically passed from one service to the other.

Table 30 Request Fields for Mastercard SecureCode

Value and Requirements	Request Field for the Authorization Service	Get the Value from this Payer Authentication Reply Field
ECI—electronic commerce indicator. ■ Used for all processors that support Mastercard SecureCode. ■ Always required. ■ Value to use for a Mastercard SecureCode transaction: `spa`. **Note** The ECI for all Mastercard SecureCode transactions, including authentication attempts, must be set to `spa`. Otherwise, the transactions will be processed as non-SecureCode transactions.	ccAuthService_ commerceIndicator	payerAuthValidateReply_ commerceIndicator
ECI Raw—raw electronic commerce indicator. ■ Used for all processors that support Mastercard SecureCode. ■ Required when the payer authentication validation service returns a raw ECI value. ■ Some processors require the raw ECI to guarantee chargeback protection. Contact CyberSource Customer Support for information about your processor's requirements.	ccAuthService_eciRaw	payerAuthValidateReply_ eciRaw
UCAF Authentication Data—authentication data for the universal cardholder authentication field. ■ Used for all processors that support Mastercard SecureCode. ■ Required when the UCAF collection indicator is `1`, `2`, or `5`. Do not include UCAF authentication data in the authorization request if the UCAF collection indicator is not `1`, `2`, or `5`. **Important** Mastercard has indicated that an issuing bank can downgrade an authorization request to a non-secure transaction when the UCAF collection indicator is `1` and UCAF authentication data is not present. An issuing bank can choose not to settle a downgraded Mastercard SecureCode transaction. When UCAF authentication data is not present, set the UCAF collection indicator to `0`.	ucaf_authenticationData	payerAuthValidateReply_ ucafAuthenticationData

Table 30 Request Fields for Mastercard SecureCode (Continued)

Value and Requirements	Request Field for the Authorization Service	Get the Value from this Payer Authentication Reply Field
UCAF Collection Indicator—collection indicator for the universal cardholder authentication field. ■ Used for all processors that support Mastercard SecureCode. ■ Always required. ■ Possible values: • `0`: UCAF collection is not supported at your web site. • `1`: UCAF collection is supported at your web site, and the UCAF was populated. • `2`: UCAF collection is supported at your web site and the UCAF was populated. This value indicates a successful Mastercard SecureCode transaction.	ucaf_collectionIndicator	payerAuthValidateReply_ ucafCollectionIndicator
XID—transaction identifier. Must be 28-character base64 or 40-character hex binary. ■ Used for all processors that support Mastercard SecureCode. ■ Required when the payer authentication validation service returns an XID value.	ccAuthService_xid	payerAuthValidateReply_xid

American Express SafeKey

Service:

- Authorization

Processor:

- FDC Nashville Global

American Express SafeKey (AESK) authenticates the cardholder during an online purchase and protects payment information as it is transmitted over the Internet.

To request the authorization of an AESK transaction:

Step 1 Add the fields in the following table to your **ccAuthService** request. The values for these fields are in the reply from the validate authentication service **payerAuthValidateService**. When you request **payerAuthValidateService** and **ccAuthService** together, the data is automatically passed from one service to the other.

The authorization service returns a raw response code and a mapped response code:

- The *raw response code* is the value returned by the processor. CyberSource returns this value in the **ccAuthReply_cavvResponseCodeRaw** field.
- The *mapped response code* is the predefined CyberSource value that corresponds to the raw response code. CyberSource returns this value in the **ccAuthReply_cavvResponseCode** field. Appendix C, "American Express SafeKey Response Codes," on page 153 describes the mapped response codes.

Table 31 Request Fields for American Express SafeKey

Value and Requirements	Request Field for the Authorization Service	Get the Value from this Payer Authentication Reply Field
CAVV—cardholder authentication verification value. This value is a transaction identifier generated by the issuing bank during American Express SafeKey payer authentication. This value is required.	ccAuthService_cavv	payerAuthValidateReply_cavv
ECI—electronic commerce indicator. This value is required. Possible values: ▪ `aesk`: Successful AESK transaction. ▪ `aesk_attempted`: AESK transaction was attempted but not authenticated.	ccAuthService_commerceIndicator	payerAuthValidateReply_commerceIndicator
XID—transaction identifier. This value is optional.	ccAuthService_xid	payerAuthValidateReply_xid

Note

Payment network tokenization and CyberSource *payment tokenization* are not the same feature.

- With payment network tokenization, the token is created by a token service provider and can be used throughout the financial network.
- With CyberSource payment tokenization, the token is created by CyberSource and can be used only with CyberSource services.

Payment Tokenization

See "Token Management Service (TMS)," page 89.

POS Transactions

See the *Card-Present Transactions Supplement*.

Quasi-Cash

Services:

- Authorization
- Full authorization reversal
- Capture
- Credit
- Void

Processors:

- GPN
- TSYS Acquiring Solutions

Before processing quasi-cash transactions, contact CyberSource Customer Support to have your account configured for this feature. If you have questions about the supported card types, contact your processor.

A quasi-cash transaction is a cash-like transaction for the sale of items that are directly convertible to cash, such as:

- Casino gaming chips
- Money orders
- Wire transfers

Automatic partial authorization reversals are supported for quasi-cash transactions. See "Automatic Partial Authorization Reversals," page 33.

Recurring Billing

When you use Recurring Billing, you can process an authorization, capture, or credit by using information that is stored in a subscription. CyberSource uses the subscription ID to reference the subscription information in the CyberSource database. Instead of providing all the information that is normally required for a transaction, you only need to provide the following values:

- Merchant ID
- Merchant reference code
- Amount of the payment or credit
- Subscription ID

You can override most of the information stored in the subscription by including the relevant API fields in the payment or credit request. For example, you could provide a different billing or shipping address in the request. You cannot override the payment card account number.

See *Recurring Billing Using the Simple Order API for CyberSource Essentials*.

Recurring Payments

Service:

- Authorization

Processors and card types:

- See the following table.

Table 32 Processors That Support Recurring Payments

Processors	Payment Card Types
Chase Paymentech Solutions	Visa, Mastercard, American Express, Discover
FDC Compass	Visa, Mastercard, American Express, Discover, Diners Club, JCB
FDC Nashville Global	Visa, Mastercard, American Express, Discover
FDMS South	Visa, Mastercard, Discover On FDMS South, recurring payments are not supported for the CAD currency on the Visa card type.
FDMS Nashville	Visa, Mastercard, American Express, Discover
GPN	Visa, Mastercard, American Express, Discover, Diners Club, JCB
RBS WorldPay Atlanta	Visa, Mastercard, American Express, Discover, Diners Club, JCB
TSYS Acquiring Solutions	Visa, Mastercard, American Express, Discover


Note

American Express and Discover have programs that you must register for if you want to process recurring payments. Contact American Express and Discover for details about their programs.

Depending on the types of products and services you sell, you might want to process recurring payments for a customer. For example, you might want to charge a customer 19.95 USD each month to access a service that you offer.


Note

A customer's recurring payment does not have to be the same amount each time.

You must disclose clearly to customers when they make a purchase what the amount will be for the recurring payments. If the amount varies based on usage, make it clear.

To create a recurring payment:

Step 1 For the first payment, the type of request you need to send depends on which processor and card type you are using.

- For Mastercard and American Express transactions on FDC Nashville Global, include the following fields and values in the request for the first payment:

  ccAuthService_commerceIndicator=`recurring`

  ccAuthService_firstRecurringPayment=`TRUE`

  card_cvNumber

- For all other processors and card types, request a non-recurring transaction for a credit card authorization.

If the first authorization is successful, you can submit subsequent authorizations for recurring payments using that card. If the first authorization is not successful, do not submit subsequent authorizations using that card.

Important

You must perform Step 1 once per year to verify the account.

Step 2 For each subsequent recurring payment, send an authorization request using the e-commerce indicator to indicate that the payment is a recurring payment:

ccAuthService_commerceIndicator=`recurring`

CyberSource also offers services that enable you to create a subscription or customer profile for a customer in the CyberSource system and then use that subscription or customer profile later to manually or automatically bill the customer. The CyberSource system eliminates the need for you to handle or store the customer's sensitive payment card information or create your own system for billing the customer on a regular basis. For more information, see "Payment Tokenization," page 82, and "Recurring Billing," page 83.

AVS and Recurring Payments


Note

FDMS Nashville does not support AVS for recurring payments.

If AVS is supported for your processor and card type, AVS is run for every authorization request that you submit. For recurring payments, check the AVS result for the first payment to ensure that the payment information is accurate and to reduce the risk of fraud.

You must decide what to do with the AVS results for subsequent payments. You might want to ignore the AVS results for the these payments because you have already confirmed with the first payment that the payment card number is valid and not fraudulent.

When you need to change the payment card number used for a series of recurring payments, follow Step 1 in creating a recurring payment to verify the new account number. Closely evaluate the AVS results. If the first authorization is successful, you can submit subsequent authorizations for recurring payments using that card. If the first authorization is not successful, do not submit subsequent authorizations using that card. For subsequent payments, follow Step 2 in creating a recurring payment. You can choose to ignore the AVS results.

CVN and Recurring Payments


Note

FDMS Nashville does not support CVN for recurring payments.

Replacement Expiration Dates for Recurring Payments

Service:

- Authorization

Processors and card types:

- See the following table.

Table 33 Processors That Support Replacement Expiration Dates for Recurring Payments

Processors	Payment Card Types
Chase Paymentech Solutions	Visa, Mastercard
FDC Compass	Visa, Mastercard, American Express, Discover, Diners Club
FDMS South	Visa, Mastercard

Normally when you request a credit card authorization, you must provide a valid expiration date for the payment card. If you are processing a recurring payment, and the payment card that you have on file for the customer has expired, you might still be able to request the authorization depending on which processor you use. Instead of sending the out-of-date expiration date, you can include a replacement expiration date in your request.

Important

Do not use a replacement expiration date for cards that have not expired. Use a replacement expiration date only for cards that have expired and only for recurring payments.

Using a replacement expiration date for a recurring payment does not guarantee that the authorization will be successful. The issuing bank determines whether a card is authorized; some issuing banks do not accept an expiration date that does not match the expiration date in the bank's database.

The replacement expiration date that CyberSource supports is 12/2099. To use this date, include these fields and values in your authorization request:

```
card_expirationMonth=12
card_expirationYear=2099
```

Recurring Profiles

See "Recurring Billing," page 83.

Retail POS Data

See the *Card-Present Transactions Supplement*.

Secure Data

See "Payment Tokenization," page 82.

Soft Descriptors

See "Merchant Descriptors," page 72.

Split Dial/Route

See "Forced Captures," page 69.

Subscriptions

See "Recurring Billing," page 83.

Token Management Service (TMS)

Token Management Service replaces Payment Tokenization. TMS enables you to:

- Tokenize customers' sensitive personal information.
- Eliminate payment data from your order management system to ensure that it is not compromised during a security breach.

When you use TMS, you can process an authorization, capture, or credit by using information that is associated with a customer token. CyberSource uses the customer token to reference customer information in the CyberSource database. Instead of providing all the information that is normally required for a transaction, you only need to provide the following values:

- Merchant ID
- Merchant reference code
- Amount of the payment or credit
- Subscription ID—set this field to the value of the customer token.

You can override most of the information associated with the customer token by including the relevant API fields in the payment or credit request. For example, you could provide a different billing or shipping address in the request. You cannot override the payment card account number.

See *Token Management Service Using the Simple Order API.*

Type II Cards

See the *Level II and Level III Transactions Supplement*.

Verbal Authorizations

See "Verbal Authorizations," page 50.

Verified by Visa

See "Payer Authentication," page 75.

Visa Bill Payments

Services:

- Authorization
- Credit

Processors:

- Chase Paymentech Solutions
- FDC Compass
- FDC Nashville Global
- FDMS Nashville
- GPN
- TSYS Acquiring Solutions

Visa provides a Bill Payment program that enables customers to use their Visa cards to pay their bills. When you participate in this program, Visa requests that you flag the bill payments and credits so they can be easily identified. To flag these transactions, include the **ccAuthService_billPayment** field in your transaction requests.

Although CyberSource accepts the bill payment indicator no matter which processor you are using, do not use this indicator if you have not signed up with Visa to participate in the program.

Visa Debt Repayments

Services:

- Authorization
- Credit

Processors:

- FDC Nashville Global
- FDMS Nashville
- GPN

Visa provides a Debt Repayment program that enables customers to use their Visa debit cards to make a payment towards an existing contractual loan. The types of loans that can qualify for this program are:

- Consumer auto loans
- Consumer payment cards
- Consumer mortgages
- Student loans

To participate in this program, contact your processor for details and requirements.

When you participate in this program, Visa requests that you flag the debt repayments and credits so they can be easily identified. To flag these transactions, include these fields in your transaction requests:

- ccAuthService_billPayment
- debtIndicator

Note

When you use the Simple Order API in XML format, you must use version 1.37 or later of the XML schema to implement Visa debt repayments.

Zero Amount Authorizations

Service:

- Authorization

Processors and card types:

- See the following table.

Table 34 Processors That Support Zero Amount Authorizations

Processor	AVS	CVN	Card Types and Notes
Chase Paymentech Solutions	Yes	Yes	■ Visa ■ Mastercard ■ Diners Club
FDC Compass	Yes	Yes	■ Visa ■ Mastercard ■ American Express ■ Diners Club
FDC Nashville Global	Yes	Yes	■ Visa ■ Mastercard
FDMS Nashville	Yes	Yes	■ Visa
FDMS South	Yes	Yes for all card types except American Express	■ Visa ■ Mastercard ■ American Express: • AVS is required for zero amount authorizations with American Express. • CVN is not supported for zero amount authorizations with American Express. ■ Diners Club ■ Discover
GPN	Yes	Yes for all card types except American Express	■ Visa ■ Mastercard ■ American Express: CVN is not supported for zero amount authorizations with American Express. ■ Discover ■ JCB

Table 34 Processors That Support Zero Amount Authorizations (Continued)

Processor	AVS	CVN	Card Types and Notes
RBS WorldPay Atlanta	Yes	Yes	■ Visa ■ Mastercard ■ Diners Club
TSYS Acquiring Solutions	Yes	Yes for Visa and Mastercard. No for American Express and Discover.	■ Visa ■ Mastercard ■ American Express: CVN is not supported for zero amount authorizations with American Express. ■ Discover: CVN is not supported for zero amount authorizations with Discover.

Authorizing a payment for a zero amount shows whether a payment card account is valid and whether the card is lost or stolen. You cannot capture a zero amount authorization.

CHAPTER 6

Testing the Credit Card Services

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

Requirements for Testing

Important Before you can test, you must contact CyberSource 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 CyberSource merchant ID when you test your system.
- Unless otherwise specified, use test payment card numbers, not real ones. See Table 35, "Test Payment Card Numbers," on page 95.
- 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.
- When testing the Simple Order API, use the test URL:
  https://ics2wstesta.ic3.com/commerce/1.x/transactionProcessor

Testing the Services

Use the payment card numbers in the following table to test the authorization, capture, and credit services. Do not use real payment card numbers. To test card types not listed in the table, use an account number that is within the card's bin range. For best results, try each test with a different CyberSource service request and with different test payment card numbers.

Table 35 Test Payment Card Numbers

Payment Card Type	Test Account Number (Remove spaces when sending to CyberSource.)
American Express	`3782 8224 6310 005`
Discover	`6011 1111 1111 1117`
JCB	`3566 1111 1111 1113`

Mastercard	`2222 4200 0000 1113`
	`2222 6300 0000 1125`
	`5555 5555 5555 4444`

Visa	`4111 1111 1111 1111`

Using Amounts to Simulate Errors

You can simulate the CyberSource 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.

For trigger amounts and responses, see *Using the Test Simulator*.

Testing American Express Card Verification

Before using CVN with American Express, CyberSource strongly recommends that you perform this procedure.

To test American Express card verification:

Step 1 Contact CyberSource Customer Support to have your account configured for CVN. Until you do this, you will receive a 1 in the **ccAuthReply_cvCode** reply field.

Step 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.

APPENDIX A

API Fields

Formatting Restrictions

Unless otherwise noted, all field names are case sensitive and all fields accept special characters such as @, #, and %.

Note

The values of the **item_#_** fields must not contain carets (^) or colons (:) because these characters are reserved for use by the CyberSource services.

Values for request-level and item-level fields must not contain new lines or carriage returns. However, they can contain embedded spaces and any other printable characters. CyberSource removes all leading and trailing spaces.

Data Type Definitions

For more information about these data types, see the World Wide Web Consortium (W3C) XML Schema Part 2: Datatypes Second Edition.

Table 36 Data Type Definitions

Data Type	Description
Integer	Whole number {..., -3, -2, -1, 0, 1, 2, 3, ...}
String	Sequence of letters, numbers, spaces, and special characters

Numbered Elements

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

```
<item id="0">
```

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

Below is an example of the numbered `<item>` element and the corresponding name-value pair field names. If you are using SOAP, the client contains a corresponding `Item` class.

Example 1 Numbered XML Schema Element Names and Name-Value Pair Field Names

XML Schema Element Names	Corresponding Name-Value Pair Field Names

`<item id="0">`
`  <unitPrice>`
`  <quantity>`
`</item>`
	item_0_unitPrice
	item_0_quantity

`<item id="1">`
`  <unitPrice>`
`  <quantity>`
`</item>`
	item_1_unitPrice
	item_1_quantity

Important

When a request is in XML format and includes an `<item>` element, the element must include an `id` attribute. For example: `<item id="0">`.

Request Fields

Note When you use Payment Tokenization or Recurring Billing and you include a subscription ID in your request, many of the fields in the following table that are normally required for an authorization or credit become optional. See "Payment Tokenization," page 82, and "Recurring Billing," page 83.

Table 37 Request Fields

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
authIndicator	Flag that specifies the purpose of the authorization. Possible values: ■ `0`: Preauthorization ■ `1`: Final authorization To set the default for this field, contact CyberSource Customer Support. See "Final Authorization Indicator," page 65.	ccAuthService (Optional for Mastercard transactions; not used for other card types)	String (1)
billTo_city	City of the billing address. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting. **Important**	ccAuthService (R)[4] ccCaptureService (O) ccCreditService (R)[1,4]	String (50)
billTo_company	Name of the customer's company.	ccAuthService (O) ccCaptureService (O) ccCreditService (O)	String (60)
billTo_country	Country of the billing address. Use the two-character *ISO Standard Country Codes*. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting. **Important**	ccAuthService (R)[4] ccCaptureService (O) ccCreditService (R)[1,4]	String (2)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
billTo_customerID	Your identifier for the customer. When a subscription or customer profile is being created, the maximum length for this field is 30. Otherwise, the maximum length is100.	ccAuthService (O) ccCaptureService (O) ccCreditService (O)	String (100)
billTo_email	Customer's email address, including the full domain name. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting. **Important**	ccAuthService (R)[4] ccCaptureService (O) ccCreditService (R)[1,4]	String (255)
billTo_firstName	Customer's first name. This name must be the same as the name on the card. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting. **Important**	ccAuthService (R)[4] ccCaptureService (O) ccCreditService (R)[1,4]	String (60)
billTo_hostname	DNS resolved hostname from **billTo_ ipAddress**.	ccAuthService (O) ccCaptureService (O) ccCreditService (O)	String (60)
billTo_httpBrowserType	Customer's browser as identified from the HTTP header data. For example, `Mozilla` is the value that identifies the Netscape browser.	ccAuthService (O) ccCaptureService (O) ccCreditService (O)	String (40)
billTo_ipAddress	Customer's IP address.	ccAuthService (O) ccCaptureService (O) ccCreditService (O)	String (15)
billTo_lastName	Customer's last name. This name must be the same as the name on the card. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting. **Important**	ccAuthService (R)[4] ccCaptureService (O) ccCreditService (R)[1,4]	String (60)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
billTo_phoneNumber	Customer's phone number. CyberSource recommends that you include the country code when the order is from outside the U.S.	ccAuthService (O) ccCaptureService (O) ccCreditService (O)	String (15)
billTo_postalCode	Postal code for the billing address. The postal code must consist of 5 to 9 digits. When the billing country is the U.S., the 9-digit postal code must follow this format: [5 digits][dash][4 digits] **Example** 12345-6789 When the billing country is Canada, the 6-digit postal code must follow this format: [alpha][numeric][alpha][space] [numeric][alpha][numeric] **Example** A1B 2C3 **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting. **Important**	ccAuthService (Required when the billing country is the U.S. or Canada; otherwise, optional.)[4] ccCaptureService (O) ccCreditService (Required when the billing country is the U.S. or Canada; otherwise, optional.)[1,4]	String (10)
billTo_state	State or province of the billing address. Use the *State, Province, and Territory Codes for the United States and Canada*. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting. **Important**	ccAuthService (Required when the billing country is the U.S. or Canada; otherwise, optional.)[4] ccCaptureService (O) ccCreditService (Required when the billing country is the U.S. or Canada; otherwise, optional.)[1,4]	String (2)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
billTo_street1	First line of the billing street address as it appears on the payment card issuer's records. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting. **Important**	ccAuthService (R)[4] ccCaptureService (O) ccCreditService (R)[1,4]	String (60)
billTo_street2	Additional address information. **Example** Attention: Accounts Payable ***Chase Paymentech Solutions, FDC Compass, and TSYS Acquiring Solutions*** This value is used for AVS.	ccAuthService (O) ccCaptureService (O) ccCreditService (O)	String (60)
card_accountNumber	Customer's payment card number.	ccAuthService (R) ccCreditService (R)[1]	String with numbers only (20)
card_cardType	Type of card to authorize. Possible values: ■ `001`: Visa ■ `002`: Mastercard ■ `003`: American Express ■ `004`: Discover ■ `005`: Diners Club: See "Discover Acquisitions and Alliances," page 13. ■ `006`: Carte Blanche[2] ■ `007`: JCB[2]	ccAuthService ccCreditService[1] **Important** CyberSource strongly recommends that you send the card type even if it is optional for your processor and card type. Omitting the card type can cause the transaction to be processed with the wrong card type.	String (3)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
card_cvIndicator	Flag indicating whether a CVN code was sent. Possible values: ■ `0` (default): CVN service not requested. CyberSource uses this default value when you do not include **card_cvNumber** in the request. ■ `1` (default): CVN service requested and supported. CyberSource uses this default value when you include **card_cvNumber** in the request. ■ `2`: CVN on payment card is illegible. ■ `9`: CVN was not imprinted on payment card.	ccAuthService (O)	String with numbers only (1)
card_cvNumber	CVN. See "Card Verification Numbers (CVNs)," page 47, for a list of processors that support CVN.	ccAuthService (O)	String with numbers only (4)
card_expirationMonth	Two-digit month in which the credit card expires. Format: MM. Possible values: `01` through `12`. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting. **Important**	ccAuthService (R)[4] ccCreditService (R)[1,4]	String (2)
card_expirationYear	Four-digit year in which the credit card expires. Format: YYYY. ***FDC Nashville Global and FDMS South*** You can send in 2 digits or 4 digits. When you send in 2 digits, they must be the last 2 digits of the year. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting. **Important**	ccAuthService (R)[4] ccCreditService (R)[1,4]	FDC Nashville Global and FDMS South: String (See description) All other processors: String (4)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
ccAuthReversalService _authRequestID	Request ID for the authorization that you want to reverse.	ccAuthReversal Service (R)	String (26)
ccAuthReversalService _authRequestToken	Value of the request token returned from a previous request for **ccAuthService**. The field is an encoded string that contains no confidential information, such as an account number or card verification number. The string can contain a maximum of 256 characters.	ccAuthReversal Service (O)	String (256)
ccAuthReversalService _reversalReason	Reason for the authorization reversal. Possible value: ■ 34: Suspected fraud CyberSource ignores this field for processors that do not support this value.	ccAuthReversal Service (O)	String (3)
ccAuthReversalService _run	Whether to include **ccAuthReversalService** in your request. Possible values: ■ `true`: Include the service in your request. ■ `false` (default): Do not include the service in your request.	ccAuthReversal Service (R)	String (5)
ccAuthService_ aggregatorID	Value that identifies you as a payment aggregator. Get this value from the processor. See "Aggregator Support," page 60. ***FDC Compass*** This value must consist of uppercase characters.	ccAuthService FDC Compass: R for all aggregator transactions. FDC Nashville Global: R for all aggregator transactions.	FDC Compass: String (20) FDC Nashville Global: String (15)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
ccAuthService_ aggregatorName	Your payment aggregator business name. See "Aggregator Support," page 60. ***FDC Compass*** This value must consist of uppercase characters.	ccAuthService FDC Compass: R for Mastercard aggregator transactions; otherwise, not used. FDC Nashville Global: R for all aggregator transactions.	FDC Compass: String (37) FDC Nashville Global: String (12)
ccAuthService_ authType	Authorization type. ***Forced Capture*** Set this field to `verbal` and include it in your authorization request to indicate that you are performing a forced capture; therefore, you received the authorization code outside the CyberSource system. See "Forced Captures," page 69.	ccAuthService Required for a forced capture; otherwise, not used.	String (6)
ccAuthService_ billPayment	Flag indicating that this is a payment for a bill or for an existing contractual loan. See "Visa Bill Payments," page 90, and "Visa Debt Repayments," page 91, for lists of processors that support these features. This value is case sensitive. Possible values: ▪ `true`: Bill payment or loan payment. ▪ `false` (default): Not a bill payment or loan payment.	ccAuthService (O)	String (5)
ccAuthService_cavv	Cardholder authentication verification value (CAVV). For the description and requirements, see "Payer Authentication," page 75.	ccAuthService	String (40)
ccAuthService_ cavvAlgorithm	Algorithm used to generate the CAVV for Verified by Visa or the UCAF authentication data for Mastercard SecureCode. For the description and requirements, see "Payer Authentication," page 75.	ccAuthService	String (1)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
ccAuthService_ commerceIndicator	Type of transaction. Some payment card companies use this information when determining discount rates. ***Payer Authentication Transactions*** For the possible values and requirements, see "Payer Authentication," page 75. ***Other Types of Transactions*** See Appendix F, "Commerce Indicators," on page 159.	ccAuthService (Required for payer authentication transactions; otherwise, optional.)	String (20)
ccAuthService_eciRaw	Raw electronic commerce indicator (ECI). For the description and requirements, see "Payer Authentication," page 75.	ccAuthService	String (2)
ccAuthService_ firstRecurringPayment	Flag indicating whether this transaction is the first in a series of recurring payments. Possible values: ■ TRUE: Yes, this is the first payment in a series of recurring payments. ■ FALSE (default): No, this is not the first payment in a series of recurring payments. This field is supported only for FDC Nashville Global.	ccAuthService (O)	String (1)
ccAuthService_ paresStatus	Payer authentication response status. For the description and requirements, see "Payer Authentication," page 75.	ccAuthService	String (1)
ccAuthService_ partialAuthIndicator	Flag indicating whether the transaction is enabled for partial authorization. When your request includes this field, this value overrides the information in your CyberSource account. Possible values: ■ `true`: Enable the transaction for partial authorization. ■ `false`: Do not enable the transaction for partial authorization. See "Partial Authorizations," page 52.	ccAuthService (O)	String (5)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
ccAuthService_run	Whether to include **ccAuthService** in your request. Possible values: ■ `true`: Include the service in your request. ■ `false` (default): Do not include the service in your request.	ccAuthService (R)	String (5)
ccAuthService_ verbalAuthCode	Authorization code you received from an authorization that you performed outside the CyberSource system. See "Forced Captures," page 69.	ccAuthService Required for a forced capture; otherwise, not used.	String (6)
ccAuthService_ veresEnrolled	Verification response enrollment status. For the description and requirements, see "Payer Authentication," page 75.	ccAuthService	String (1)
ccAuthService_xid	Transaction identifier. For the description and requirements, see "Payer Authentication," page 75.	ccAuthService	String (40)
ccCaptureService_ aggregatorID	Value that identifies you as a payment aggregator. Get this value from the processor. See "Aggregator Support," page 60. ***FDC Compass*** This value must consist of uppercase characters.	ccCaptureService FDC Compass: R for all aggregator transactions. FDC Nashville Global: R for all aggregator transactions.	FDC Compass: String (20) FDC Nashville Global: String (15)
ccCaptureService_ aggregatorName	Your payment aggregator business name. See "Aggregator Support," page 60. ***FDC Compass*** This value must consist of uppercase characters.	ccCaptureService FDC Compass: R for Mastercard aggregator transactions; otherwise, not used. FDC Nashville Global: R for all aggregator transactions.	FDC Compass: String (37) FDC Nashville Global: String (12)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
ccCaptureService_ authRequestID	Value of the request ID returned from a previous **ccAuthReply**.	ccCaptureService Required unless **ccAuthService** and **ccCaptureService** are both called in the same request.	String (26)
ccCaptureService_ authRequestToken	Value of the request token returned from a previous request for **ccAuthService**. The field is an encoded string that contains no confidential information, such as an account number or card verification number. The string can contain a maximum of 256 characters.	ccCaptureService (O)	String (256)
ccCaptureService_ authType	Authorization type. When the transaction contains a verbally authorized transaction, this field must contain the value `verbal`.	ccCaptureService (O)	String (6)
ccCaptureService_ posData	Point-of-sale data. On FDMS South, this field is required for verbal authorizations and forced captures with the American Express card type to comply with the CAPN requirements: ■ Forced capture: Obtain the value for this field from the authorization response. ■ Verbal authorization: You cannot obtain a value for this field so CyberSource uses the default value. The default value is generated by CyberSource based on various factors of the transaction such as e-commerce or not, card present or not, and swiped or keyed. See "Verbal Authorizations," page 50.	ccCaptureService (See the field description.)	String (12)
ccCaptureService_run	Whether to include **ccCaptureService** in your request. Possible values: ■ `true`: Include the service in your request. ■ `false` (default): Do not include the service in your request.	ccCaptureService (R)	String (5)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
ccCaptureService_ sequence	Capture number when requesting multiple partial captures for one authorization. Used along with **ccCaptureService_totalCount** to track which capture is being processed. For example, the second of five captures would be passed to CyberSource as **ccCaptureService_sequence** = 2 and **ccCaptureService_totalCount** = 5. For the list of processors that support this field, see "Special Request Fields for Multiple Partial Captures," page 35.	ccCaptureService (See "Special Request Fields for Multiple Partial Captures," page 35.)	Integer (2)
ccCaptureService_ totalCount	Total number of captures when requesting multiple partial captures for one authorization. Used along with **ccCaptureService_ sequence** to track which capture is being processed. For example, the second of five captures would be passed to CyberSource as **ccCaptureService_sequence** = 2 and **ccCaptureService_totalCount** = 5. For the list of processors that support this field, see "Special Request Fields for Multiple Partial Captures," page 35.	ccCaptureService (See "Special Request Fields for Multiple Partial Captures," page 35.)	Integer (2)
ccCaptureService_ transactionID	Transaction ID (TID). On FDMS South, this field is required for verbal authorizations and forced captures with the American Express card type to comply with the CAPN requirements: ■ Forced capture: Obtain the value for this field from the authorization response. ■ Verbal authorization: You cannot obtain a value for this field so CyberSource uses the default value of `000000000000000` (15 zeros). See "Verbal Authorizations," page 50, for important information about using this default value.	ccCaptureService (See the field description.)	String (15)
ccCaptureService_ verbalAuthCode	Verbally received authorization code.	ccCaptureService (O)	String (6)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
ccCreditService_ aggregatorID	Value that identifies you as a payment aggregator. Get this value from the processor. See "Aggregator Support," page 60. ***FDC Compass*** This value must consist of uppercase characters.	ccCreditService FDC Compass: R for all aggregator transactions. FDC Nashville Global: R for all aggregator transactions.	FDC Compass: String (20) FDC Nashville Global: String (15)
ccCreditService_ aggregatorName	Your payment aggregator business name. See "Aggregator Support," page 60. ***FDC Compass*** This value must consist of uppercase characters.	ccCreditService FDC Compass: R for Mastercard aggregator transactions; otherwise, not used. FDC Nashville Global: R for all aggregator transactions.	FDC Compass: String (37) FDC Nashville Global: String (12)
ccCreditService_ billPayment	Flag indicating whether this is a credit for a bill the customer paid with a Visa card. See "Visa Bill Payments," page 90, for a list of processors that support bill payments with Visa. This value is case sensitive. Possible values: ▪ `true`: Credit for a bill payment. ▪ `false` (default): Not a credit for a bill payment	ccCreditService (O)	String (5)
ccCreditService_ captureRequestID	Value of the request ID returned from a previous request for **ccCaptureService**. Creates a follow-on credit by linking the credit to the previous capture. When you send this field, you do not need to send several other credit request fields. See "Crediting a Payment," page 38, for a description of follow-on credits.	ccCreditService (O)	String (26)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
ccCreditService_ captureRequestToken	Value of the request token returned from a previous request for **ccCaptureService**. The field is an encoded string that contains no confidential information, such as an account number or card verification number. The string can contain a maximum of 256 characters.	ccCreditService (O)	String (256)
ccCreditService_ commerceIndicator	Type of transaction. Use with stand-alone credits. Some payment card companies use this information when determining discount rates. Possible values: ▪ `internet` (default) ▪ `moto` ▪ `recurring` ▪ `recurring_internet` For details about these values, see Appendix F, "Commerce Indicators," on page 159.	ccCreditService (O)	String (13)
ccCreditService_run	Whether to include **ccCreditService** in your request. Possible values: ▪ `true`: Include the service in your request. ▪ `false` (default): Do not include the service in your request.	ccCreditService (R)	String (5)
debtIndicator	Flag indicating whether this is a payment towards an existing contractual loan. See "Visa Debt Repayments," page 91, for a list of processors that support this feature. Possible values: ▪ `true`: Loan payment ▪ `false` (default): Not a loan payment	ccAuthService (O) ccCreditService (O)	String (5)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
installment_sequence	Installment number when making payments in installments. Used along with **installment_totalCount** to track which payment is being processed. For example, the second of 5 payments would be passed to CyberSource as **installment_sequence** = 2 and **installment_totalCount** = 5. See "Installment Payments," page 70. ***Chase Paymentech Solutions and FDC Compass*** This field is optional because this value is required in the merchant descriptors. See *Merchant Descriptors User Guide*.	ccAuthService Chase Paymentech Solutions and FDC Compass: Optional. All other processors: Required for installment payments	Integer (2)
installment_totalCount	Total number of installments when making payments in installments. Used along with **installment_sequence** to track which payment is being processed. For example, the second of 5 payments would be passed to CyberSource as **installment_sequence** = 2 and **installment_totalCount** = 5. See "Installment Payments," page 70. ***Chase Paymentech Solutions and FDC Compass*** This field is optional because this value is required in the merchant descriptors. See *Merchant Descriptors User Guide*.	ccAuthService Chase Paymentech Solutions and FDC Compass: Optional. All other processors: Required for installment payments	Integer (2)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
invoiceHeader_ amexDataTAA1 invoiceHeader_ amexDataTAA2 invoiceHeader_ amexDataTAA3 invoiceHeader_ amexDataTAA4	Four Transaction Advice Addendum (TAA) fields. These fields are used to display descriptive information about a transaction on the customer's American Express card statement. When you send TAA fields, start with **invoiceHeader_amexDataTAA1**, then **...TAA2**, and so on. Skipping a TAA field causes subsequent TAA fields to be ignored. To use these fields, contact CyberSource Customer Support to have your account enabled for this feature. For information about merchant descriptors, including which processors support this field, see "Merchant Descriptors," page 72. These fields are frequently used for Level II transactions. See the *Level II and Level III Transactions Supplement*.	ccCaptureService (O) ccCreditService (O)	String (40)
invoiceHeader_ customData_1	Free form data about the transaction. CyberSource forwards this value to your processor, which then forwards the value to your acquirer during settlement. When you send this field for both the authorization and capture services, CyberSource forwards the value sent in the capture request. This field is supported only on FDC Nashville Global.	ccAuthService (O) ccCaptureService (O)	String (32)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
invoiceHeader_ merchantDescriptor invoiceHeader_ merchantDescriptor Alternate invoiceHeader_ merchantDescriptor City invoiceHeader_ merchantDescriptor Contact invoiceHeader_ merchantDescriptor Country invoiceHeader_ merchantDescriptor PostalCode invoiceHeader_ merchantDescriptor Street	For the descriptions, used-by information, data types, and lengths for these fields, see "Merchant Descriptors," page 72.		
invoiceHeader_ submerchantCity	Sub-merchant's city. See "Aggregator Support," page 60. ***FDC Compass*** This value must consist of uppercase characters.	ccAuthService ccCaptureService ccCreditService FDC Compass: R for all aggregator transactions. FDC Nashville Global: R for all aggregator transactions.	FDC Compass: String (21) FDC Nashville Global: String (11)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
invoiceHeader_ submerchantCountry	Sub-merchant's country. Use the two-character *ISO Standard Country Codes*. See "Aggregator Support," page 60. ***FDC Compass*** This value must consist of uppercase characters.	ccAuthService ccCaptureService ccCreditService FDC Compass: O for all aggregator transactions. FDC Nashville Global: R for all aggregator transactions.	String (3)
invoiceHeader_ submerchantEmail	Sub-merchant's email address. See "Aggregator Support," page 60.	ccAuthService ccCaptureService ccCreditService FDC Compass: O for all aggregator transactions. FDC Nashville Global: R for all aggregator transactions.	FDC Compass: String (40) FDC Nashville Global: String (19)
invoiceHeader_ submerchantID	The ID you assigned to your sub-merchant. See "Aggregator Support," page 60. ***FDC Compass*** This value must consist of uppercase characters.	ccAuthService ccCaptureService ccCreditService FDC Compass: R for all aggregator transactions. FDC Nashville Global: R for all aggregator transactions.W	FDC Compass: String (20) FDC Nashville Global: String (14)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
invoiceHeader_ submerchant MerchantID	Unique identifier assigned by the payment card company to the sub-merchant. See "Aggregator Support," page 60.	ccAuthService FDC Compass: not used. FDC Nashville Global: O for American Express aggregator authorizations; otherwise, not used.	String (15)
invoiceHeader_ submerchantName	Sub-merchant's business name. See "Aggregator Support," page 60. ***FDC Compass*** This value must consist of uppercase characters. ***FDC Nashville Global*** With Mastercard, the maximum length of the sub-merchant name depends on the length of the aggregator name: ■ If aggregator name length is 1 through 3, maximum sub-merchant name length is 21. ■ If aggregator name length is 4 through 7, maximum sub-merchant name length is 17. ■ If aggregator name length is 8 through 12, maximum sub-merchant name length is 12.	ccAuthService ccCaptureService ccCreditService FDC Compass: R for all aggregator transactions. FDC Nashville Global: R for all aggregator transactions.	FDC Compass with American Express: String (19) FDC Compass with Mastercard: String (37) FDC Nashville Global with American Express: String (12) FDC Nashville Global with Mastercard: String (see description)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
invoiceHeader_ submerchantPostal Code	Partial postal code for the sub-merchant's address. See "Aggregator Support," page 60. ***FDC Compass*** This value must consist of uppercase characters.	ccAuthService ccCaptureService ccCreditService FDC Compass: O for all aggregator transactions. FDC Nashville Global: R for all aggregator transactions.	FDC Compass: String (15) FDC Nashville Global: String (9)
invoiceHeader_ submerchantRegion	Sub-merchant's region. **Example** NE indicates that the sub-merchant is in the northeast region. See "Aggregator Support," page 60.	ccAuthService FDC Compass: not used. FDC Nashville Global: O for all aggregator authorizations; otherwise, not used.	String (3)
invoiceHeader_ submerchantState	Sub-merchant's state or province. Use the *State, Province, and Territory Codes for the United States and Canada*. See "Aggregator Support," page 60. ***FDC Compass*** This value must consist of uppercase characters.	ccAuthService ccCaptureService ccCreditService FDC Compass: O for all aggregator transactions. FDC Nashville Global: R for all aggregator transactions.	String (3)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
invoiceHeader_ submerchantStreet	First line of the sub-merchant's street address. See "Aggregator Support," page 60. ***FDC Compass*** This value must consist of uppercase characters.	ccAuthService ccCaptureService ccCreditService FDC Compass: O for all aggregator transactions. FDC Nashville Global: R for all aggregator transactions.	FDC Compass: String (38) FDC Nashville Global: String (25)
invoiceHeader_ submerchantTelephone Number	Sub-merchant's telephone number. See "Aggregator Support," page 60. ***FDC Compass*** This value must consist of uppercase characters. Use one of these recommended formats: NNN-NNN-NNNN NNN-AAAAAAA	ccAuthService ccCaptureService ccCreditService FDC Compass: R for all aggregator transactions. FDC Nashville Global: R for all aggregator transactions.	FDC Compass: String (13) FDC Nashville Global: String (10)
item_#_productCode	Type of product. This value is used to determine the category that the product is in: electronic, handling, physical, service, or shipping. The default value is `default`. See Table 47, "Product Codes," on page 166 for a list of valid values. For **ccAuthService**, when you set this field to a value other than `default` or any of the values related to shipping and/or handling, the **item_#_quantity**, **item_#_productName**, and **item_#_productSKU** fields are required. See "Numbered Elements," page 98.	ccAuthService (O) ccCaptureService (O) ccCreditService (O)	String (255)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
item_#_productName	For **ccAuthService** and **ccCaptureService**, this field is required when **item_#_productCode** is not `default` or one of the values related to shipping and/or handling. See "Numbered Elements," page 98.	ccAuthService (See the field description.) ccCaptureService (See the field description.)	String (255)
item_#_productSKU	Identification code for the product. For **ccAuthService** and **ccCaptureService**, this field is required when **item_#_productCode** is not `default` or one of the values related to shipping and/or handling. See "Numbered Elements," page 98.	ccAuthService (See the field description.) ccCaptureService (See the field description.)	String (255)
item_#_quantity	The default is `1`. For **ccAuthService** and **ccCaptureService**, this field is required when **item_#_productCode** is not `default` or one of the values related to shipping and/or handling. See "Numbered Elements," page 98.	ccAuthService (See the field description.) ccAuthReversal Service (O) ccCaptureService (See the field description.) ccCreditService (O)	Integer (10)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length

item_#_taxAmount	Total tax to apply to the product. This value cannot be negative. The tax amount and the unit price must be in the same currency.
	The tax amount field is additive. The following example uses a two-exponent currency such as USD:
	1 You include the following items in your request:
	`item_0_unitPrice=10.00`
	`item_0_quantity=1`
	`item_0_taxAmount=0.80`
	`item_1_unitPrice=20.00`
	`item_1_quantity=1`
	`item_1_taxAmount=1.60`
	2 The total amount authorized will be 32.40, not 30.00 with 2.40 of tax included.
	This field is frequently used for Level II and Level III transactions. See the *Level II and Level III Transactions Supplement*.
	See "Numbered Elements," page 98.
		ccAuthService (O)
		ccCaptureService (O)
		ccCreditService (O)
			String (15)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
item_#_unitPrice	Per-item price of the product. This value cannot be negative. You can include a decimal point (.) in this field, but you cannot include any other special characters. CyberSource truncates the amount to the correct number of decimal places. See "Numbered Elements," page 98. **Important** Some processors have specific requirements and limitations, such as maximum amounts and maximum field lengths. This information is covered in: ■ Table 9, "Authorization Information for Specific Processors," on page 25 ■ Table 13, "Capture Information for Specific Processors," on page 32 ■ Table 17, "Credit Information for Specific Processors," on page 41 ***Zero Amount Authorizations*** If your processor supports zero amount authorizations, you can set this field to `0` for the authorization to check if the card is lost or stolen. See "Zero Amount Authorizations," page 92.	ccAuthService[3] ccAuthReversal Service[3] ccCaptureService[3] ccCreditService[3]	String (15)
linkToRequest	Value that links the current authorization request to the original authorization request. Set this value to the request ID that was returned in the reply message from the original authorization request. This value is used for partial authorizations as described in "Partial Authorizations," page 52.	ccAuthService (O)	String (26)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
merchantCategoryCode	Four-digit number that the payment card industry uses to classify merchants into market segments. Visa assigned one or more of these values to your business when you started accepting Visa cards. When you do not include this field in your request, CyberSource uses the value in your CyberSource account. See "Aggregator Support," page 60.	ccAuthService ccCaptureService ccCreditService FDC Compass: O for all aggregator authorizations; otherwise, not used. FDC Nashville Global: R for all aggregator transactions.	Integer (4)
merchantDefinedData_field1 to merchantDefinedData_field20	Fields that you can use to store information. **Important** These fields have been replaced by **merchantDefinedData_mddField_1** to **100**. CyberSource recommends that you update your order management system to use the new fields. **Warning** Merchant-defined fields *must not* be used to capture personally identifying information as stated in the warning under the following field description for **merchantDefinedData_mddField_1** to **100**.	ccAuthService (O) ccCaptureService (O) ccCreditService (O)	String (255)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
merchantDefinedData_ mddField_1 to merchantDefinedData_ mddField_100	Fields that you can use to store information. **Important** These fields override the old merchant-defined data fields. For example, if you use the obsolete field **merchantDefinedData_field15** and the new field **merchantDefinedData_mddField_15** in the same request, the value for the new field overwrites the value for the obsolete field. **Warning** Merchant-defined data fields are not intended to and *must not* be used to capture personally identifying information. Accordingly, merchants are prohibited from capturing, obtaining, and/or transmitting any personally identifying information in or via the merchant-defined data fields. Personally identifying information includes, but is not limited to, address, payment card number, social security number, driver's license number, state-issued identification number, passport number, and card verification numbers (CVV, CVC2, CVV2, CID, CVN). In the event CyberSource discovers that a merchant is capturing and/or transmitting personally identifying information via the merchant-defined data fields, whether or not intentionally, CyberSource will immediately suspend the merchant's account, which will result in a rejection of any and all transaction requests submitted by the merchant after the point of suspension.	ccAuthService (O) ccCaptureService (O) ccCreditService (O)	String (255)
merchantID	Your CyberSource merchant ID. Use the same merchant ID for evaluation, testing, and production.	Required for all CyberSource services.	String (30)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
merchantReference Code	Merchant-generated order reference or tracking number. CyberSource recommends that you send a unique value for each transaction so that you can perform meaningful searches for the transaction. For information about tracking orders, see *Getting Started with CyberSource Essentials*. ***FDC Nashville Global*** Certain circumstances can cause the processor to truncate this value to 15 or 17 characters for Level II and Level III processing, which can cause a discrepancy between the value you submit and the value included in some processor reports.	Required for all CyberSource services.	String (50)
merchantTransaction Identifier	Identifier that you assign to the transaction. See "Merchant-Initiated Reversals and Voids," page 73.	ccAuthService (O) ccAuthReversal Service (O) ccCaptureService (O) ccCreditService (O) voidService (O)	String (30)
orderRequestToken	The request token value returned from a previous request. This value links the previous request to the current follow-on request. This field is an encoded string that does not contain any confidential information, such as account numbers or card verification numbers. The string can contain a maximum of 256 characters.	ccAuthReversal Service (O) ccCaptureService (O) ccCreditService (O) voidService (O)	String (256)
purchaseTotals_ currency	Currency used for the order. Use the three-character *ISO Standard Currency Codes*. For **ccAuthReversalService** and **ccCaptureService**, you must use the same currency that you used in your request for **ccAuthService**.	ccAuthService (R) ccAuthReversal Service (R) ccCaptureService (R) ccCreditService (R)	String (5)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
purchaseTotals_ grandTotalAmount	Grand total for the order. This value cannot be negative. You can include a decimal point (.), but you cannot include any other special characters. CyberSource truncates the amount to the correct number of decimal places. **Important** Some processors have specific requirements and limitations, such as maximum amounts and maximum field lengths. This information is covered in: ■ Table 9, "Authorization Information for Specific Processors," on page 25 ■ Table 13, "Capture Information for Specific Processors," on page 32 ■ Table 17, "Credit Information for Specific Processors," on page 41 If your processor supports zero amount authorizations, you can set this field to `0` for the authorization to check if the card is lost or stolen. See "Zero Amount Authorizations," page 92.	ccAuthService[3] ccAuthReversal Service[3] ccCaptureService[3] ccCreditService[3]	String (15)
recurringSubscription Info_subscriptionID	When you are using Payment Tokenization or Recurring Billing and you include this value in your request, many of the fields that are normally required for an authorization or credit become optional. See "Payment Tokenization," page 82, and "Recurring Billing," page 83.	ccAuthService (O) ccCreditService (O)	String (26)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
shipFrom_postalCode	Postal code for the address from which the goods are shipped, which is used to establish nexus. The default is the postal code associated with your CyberSource account. The postal code must consist of 5 to 9 digits. When the billing country is the U.S., the 9-digit postal code must follow this format: [5 digits][dash][4 digits] **Example** 12345-6789 When the billing country is Canada, the 6-digit postal code must follow this format: [alpha][numeric][alpha][space] [numeric][alpha][numeric] **Example** A1B 2C3 This field is frequently used for Level II and Level III transactions. See the *Level II and Level III Transactions Supplement*.	ccCaptureService (O) ccCreditService (O)	String (10)
shipTo_city	City of the shipping address.	ccAuthService Required if any shipping address information is included in the request and shipping to the U.S. or Canada; otherwise, optional.	String (50)
shipTo_country	Country of the shipping address. Use the two-character *ISO Standard Country Codes*.	ccAuthService ccCaptureService ccCreditService Required if any shipping address information is included in the request; otherwise, optional.	String (2)
shipTo_firstName	First name of the recipient.	ccAuthService (O)	String (60)
shipTo_lastName	Last name of the recipient.	ccAuthService (O)	String (60)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
shipTo_postalCode	Postal code for the shipping address. The postal code must consist of 5 to 9 digits. When the shipping country is the U.S., the 9-digit postal code must follow this format: [5 digits][dash][4 digits] **Example** 12345-6789 When the shipping country is Canada, the 6-digit postal code must follow this format: [alpha][numeric][alpha][space] [numeric][alpha][numeric] **Example** A1B 2C3	ccAuthService ccCaptureService ccCreditService Required if any shipping address information is included in the request and shipping to the U.S. or Canada; otherwise, optional.	String (10)
shipTo_shippingMethod	Shipping method for the product. Possible values: ▪ `lowcost`: Lowest-cost service ▪ `sameday`: Courier or same-day service ▪ `oneday`: Next-day or overnight service ▪ `twoday`: Two-day service ▪ `threeday`: Three-day service ▪ `pickup`: Store pick-up ▪ `other`: Other shipping method ▪ `none`: No shipping method because product is a service or subscription	ccAuthService (O)	String (10)
shipTo_state	State or province of the shipping address. Use the *State, Province, and Territory Codes for the United States and Canada*.	ccAuthService Required if any shipping address information is included in the request and shipping to the U.S. or Canada; otherwise, optional.	String (2)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 37 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
shipTo_street1	First line of the shipping address.	ccAuthService Required if any shipping address information is included in the request; otherwise, optional.	String (60)
shipTo_street2	Second line of the shipping address.	ccAuthService (O)	String (60)
ucaf_ authenticationData	Universal cardholder authentication field (UCAF) data. For the description and requirements, see "Payer Authentication," page 75.	ccAuthService	String (32)
ucaf_collectionIndicator	Universal cardholder authentication field (UCAF) collection indicator. For the description and requirements, see "Payer Authentication," page 75.	ccAuthService	String with numbers only (1)
voidService_run	Whether to include **voidService** in your request. Possible values: ▪ `true`: Include the service in your request. ▪ `false` (default): Do not include the service in your request.	voidService (R)	String (5)
voidService_ voidRequestID	Request ID of the capture or credit you want to void.	voidService (R)	String (26)
voidService_ voidRequestToken	Value of the request token returned from a previous request for a service that you want to void. The field is an encoded string that contains no confidential information, such as an account number or card verification number. The string can contain a maximum of 256 characters.	voidService (O)	String (256)

1 Optional for a follow-on credit request, which must include **ccCreditService_captureRequestID**.
2 For this card type, you must include the **card_cardType** field in your request for an authorization or a stand-alone credit.
3 You must include either **item_#_unitPrice** or **purchaseTotals_grandTotalAmount** in your request. For information about items and grand totals, see *Getting Started with CyberSource Advanced for the Simple Order API*.
4 This field is optional if your CyberSource account is configured for relaxed requirements for address data and expiration date. See "Relaxed Requirements for Address Data and Expiration Date," page 44. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Reply Fields

Table 38 Reply Fields

Field	Description	Returned By	Data Type & Length
authIndicator	Flag indicating the type of authorization that was performed. Possible values: ■ `0`: Preauthorization ■ `1`: Final authorization See "Final Authorization Indicator," page 65. This field is not returned for unmarked authorizations. This field is returned only for Chase Paymentech Solutions, FDC Compass, FDC Nashville Global, and FDMS Nashville.	ccAuthReply	String (1)
ccAuthReply_ accountBalance	Remaining balance on the prepaid card. See "Balance Responses," page 57.	ccAuthReply	String (12)
ccAuthReply_ accountBalanceCurrency	Currency of the remaining balance on the prepaid card. For the possible values, see the *ISO Standard Currency Codes*. Also see "Balance Responses," page 57.	ccAuthReply	String (5)
ccAuthReply_ accountBalanceSign	Sign for the remaining balance on the prepaid card. Returned only when the processor returns this value. Possible values: ■ `positive` ■ `negative`	ccAuthReply	String (8)
ccAuthReply_ affluenceIndicator	***Chase Paymentech Solutions*** Indicates whether a customer has high credit limits. This information enables you to market high cost items to these customers and to understand the kinds of cards that high income customers are using. This field is supported for Visa, Mastercard, Discover, and Diners Club. Possible values: ■ Y: Yes ■ N: No ■ X: Not applicable / Unknown See "Card Type Indicators (CTIs)," page 64.	ccAuthReply	String (1)
ccAuthReply_amount	Amount that was authorized.	ccAuthReply	String (15)

Table 38 Reply Fields (Continued)

Field	Description	Returned By	Data Type & Length
ccAuthReply_ authFactorCode	Risk factor code from Smart Authorization. This value consists of one or more codes separated by carets (^). For the codes, see Appendix N, "Smart Authorization Factor Codes," on page 175. For information about Smart Authorization, see the *Business Center User Guide*.	ccAuthReply	String (100)
ccAuthReply_ authorizationCode	Authorization code. Returned only when the processor returns this value. ***TSYS Acquiring Solutions*** The returned value for a successful zero amount authorization is `000000`. See "Zero Amount Authorizations," page 92.	ccAuthReply	String (7 or more) The length of this value depends on your processor.
ccAuthReply_ authorizedDateTime	Time of authorization. Format: YYYY-MM-DDThh:mm:ssZ **Example** 2018-08-11T22:47:57Z is equal to August 11, 2018, at 10:47:57 P.M. The T separates the date and the time. The Z indicates UTC.	ccAuthReply	String (20)
ccAuthReply_avsCode	AVS results. See "Address Verification System (AVS)," page 43, for a description of AVS. See Appendix D, "AVS Codes," on page 154, for the list of AVS codes.	ccAuthReply	String (1)
ccAuthReply_ avsCodeRaw	AVS result code sent directly from the processor. Returned only when the processor returns this value. **Important** Do not use this field to evaluate the result of AVS. Use for debugging purposes only.	ccAuthReply	String (10)

Table 38 Reply Fields (Continued)

Field	Description	Returned By	Data Type & Length
ccAuthReply_ cardCategory	***GPN*** Visa or Mastercard product ID. For descriptions of the Visa product IDs, see the Product ID table on the Visa Request & Response Codes web page at https://developer.visa.com/guides/request_response_codes. For descriptions of the Mastercard product IDs, see Appendix L, "Product IDs," on page 167. ***RBS WorldPay Atlanta*** Type of card used in the transaction. Possible values: ■ B: Business Card ■ 0: Noncommercial Card ■ R: Corporate Card ■ S: Purchase Card ■ Blank: Purchase card not supported	ccAuthReply	GPN: String (3) RBS WorldPay Atlanta: String (1)
ccAuthReply_ cardCommercial	Indicates whether the card is a commercial card, which enables you to include Level II data in your transaction requests. This field is supported for Visa and Mastercard on Chase Paymentech Solutions. Possible values: ■ Y: Yes ■ N: No ■ X: Not applicable / Unknown See "Card Type Indicators (CTIs)," page 64.	ccAuthReply	String (1)
ccAuthReply_ cardHealthcare	Indicates whether the card is a healthcare card. This field is supported for Visa and Mastercard on Chase Paymentech Solutions. Possible values: ■ Y: Yes ■ N: No ■ X: Not applicable / Unknown See "Card Type Indicators (CTIs)," page 64.	ccAuthReply	String (1)

Table 38 Reply Fields (Continued)

Field	Description	Returned By	Data Type & Length
ccAuthReply_ cardIssuerCountry	Country in which the card was issued. This information enables you to determine whether the card was issued domestically or internationally. Use the two-character *ISO Standard Country Codes*. This field is supported for Visa, Mastercard, Discover, Diners Club, JCB, and Maestro (International) on Chase Paymentech Solutions. See "Card Type Indicators (CTIs)," page 64.	ccAuthReply	String (3)
ccAuthReply_ cardLevel3Eligible	Indicates whether the card is eligible for Level III interchange fees, which enables you to include Level III data in your transaction requests. This field is supported for Visa and Mastercard on Chase Paymentech Solutions. Possible values: ■ Y: Yes ■ N: No ■ X: Not applicable / Unknown See "Card Type Indicators (CTIs)," page 64.	ccAuthReply	String (1)
ccAuthReply_ cardPayroll	Indicates whether the card is a payroll card. This field is supported for Visa, Discover, Diners Club, and JCB on Chase Paymentech Solutions. Possible values: ■ Y: Yes ■ N: No ■ X: Not applicable / Unknown See "Card Type Indicators (CTIs)," page 64.	ccAuthReply	String (1)
ccAuthReply_ cardPINlessDebit	Indicates whether the card is a PINless debit card. This field is supported for Visa and Mastercard on Chase Paymentech Solutions. Possible values: ■ Y: Yes ■ N: No ■ X: Not applicable / Unknown See "Card Type Indicators (CTIs)," page 64.	ccAuthReply	String (1)

Table 38 Reply Fields (Continued)

Field	Description	Returned By	Data Type & Length
ccAuthReply_ cardPrepaid	Indicates whether the card is a prepaid card. This information enables you to determine when a gift card or prepaid card is presented for use when establishing a new recurring, installment, or deferred billing relationship. This field is supported for Visa, Mastercard, Discover, Diners Club, and JCB on Chase Paymentech Solutions. Possible values: ■ Y: Yes ■ N: No ■ X: Not applicable / Unknown See "Card Type Indicators (CTIs)," page 64.	ccAuthReply	String (1)
ccAuthReply_ cardRegulated	Indicates whether the card is regulated according to the Durbin Amendment. If the card is regulated, the card issuer is subject to price caps and interchange rules. This field is supported for Visa, Mastercard, Discover, Diners Club, and JCB on Chase Paymentech Solutions. Possible values: ■ Y: Yes (assets greater than 10B USD) ■ N: No (assets less than 10B USD) ■ X: Not applicable / Unknown See "Card Type Indicators (CTIs)," page 64.	ccAuthReply	String (1)
ccAuthReply_ cardSignatureDebit	Indicates whether the card is a signature debit card. This information enables you to alter the way an order is processed. For example, you might not want to reauthorize a transaction for a signature debit card, or you might want to perform reversals promptly for a signature debit card. This field is supported for Visa, Mastercard, and Maestro (International) on Chase Paymentech Solutions. Possible values: ■ Y: Yes ■ N: No ■ X: Not applicable / Unknown See "Card Type Indicators (CTIs)," page 64.	ccAuthReply	String (1)

Table 38 Reply Fields (Continued)

Field	Description	Returned By	Data Type & Length
ccAuthReply_ cavvResponseCode	Mapped response code for Verified by Visa. See "Verified by Visa," page 75, and Appendix O, "Verified by Visa Response Codes," on page 176.	ccAuthReply	String (3)
ccAuthReply_ cavvResponseCode Raw	Raw response code sent directly from the processor for Verified by Visa. See "Verified by Visa," page 75.	ccAuthReply	String (3)
ccAuthReply_cvCode	CVN result code. See "Card Verification Numbers (CVNs)," page 47, for a description of the card verification check. See Appendix G, "CVN Codes," on page 160 for the list of CVN codes.	ccAuthReply	String (1)
ccAuthReply_ cvCodeRaw	CVN result code sent directly from the processor. Returned only when the processor returns this value. **Important** Do not use this field to evaluate the result of card verification. Use for debugging purposes only.	ccAuthReply	String (11)
ccAuthReply_ merchantAdviceCode	Reason the recurring payment transaction was declined. For some processors, this field is used only for Mastercard. For other processors, this field is used for Visa and Mastercard. And for other processors, this field is not implemented. Possible values: ■ `00`: Response not provided. ■ `01`: New account information is available. Obtain the new information. ■ `02`: Try again later. ■ `03`: Do not try again. Obtain another type of payment from the customer. ■ `21`: Recurring payment cancellation service. ■ `99`: An unknown value was returned from the processor.	ccAuthReply	String (2)
ccAuthReply_ merchantAdviceCode Raw	Raw merchant advice code sent directly from the processor. This field is used only for Mastercard.	ccAuthReply	String (2)

Table 38 Reply Fields (Continued)

Field	Description	Returned By	Data Type & Length
ccAuthReply_ ownerMerchantID	Merchant ID that was used to create the subscription or customer profile for which the service was requested. ***Payment Tokenization*** When your account is enabled for Payment Tokenization, this field is returned only when you use profile sharing and when your merchant ID is in the same merchant ID pool as the owner merchant ID. See the profile sharing information in *Payment Tokenization Using the Simple Order API for CyberSource Essentials*. ***Recurring Billing*** When your account is enabled for Recurring Billing, this field is returned only when you use subscription sharing and when your merchant ID is in the same merchant ID pool as the owner merchant ID. See the subscription sharing information in *Recurring Billing Using the Simple Order API for CyberSource Essentials*.	ccAuthReply	String (30)
ccAuthReply_ paymentNetwork TransactionID	Network transaction ID. You can use this value to identify a specific transaction when discussing it with your processor. Not all processors provide this value. For details about this value for GPN, see Appendix J, "Network Transaction Identifiers," on page 165.	ccAuthReply	String (15)
ccAuthReply_ processorResponse	For most processors, this is the error message sent directly from the bank. Returned only when the processor returns this value. **Important** Do not use this field to evaluate the result of the authorization.	ccAuthReply	String (10)
ccAuthReply_ reasonCode	Numeric value corresponding to the result of the authorization request. See Appendix M, "Reason Codes," on page 171.	ccAuthReply	Integer (5)
ccAuthReply_ reconciliationID	Reference number for the transaction. This value is not returned for all processors. See Table 6, "Fields for Reconciliation IDs," on page 18 for the list of processors for which this value is returned. See *Getting Started with CyberSource Essentials* for information about order tracking and reconciliation.	ccAuthReply	String (60)

Table 38 Reply Fields (Continued)

Field	Description	Returned By	Data Type & Length
ccAuthReply_ referralResponse Number	Referral response number for a verbal authorization with FDMS Nashville when using an American Express card. Give this number to American Express when you call them for the verbal authorization.	ccAuthReply	String (6)
ccAuthReply_ requestAmount	Amount you requested to be authorized. This value is returned for partial authorizations as described in "Partial Authorizations," page 52.	ccAuthReply	String (15)
ccAuthReply_ requestCurrency	Currency for the amount you requested to be authorized. This value is returned for partial authorizations as described in "Partial Authorizations," page 52. For the possible values, see the *ISO Standard Currency Codes*.	ccAuthReply	String (5)
ccAuthReversalReply_ amount	Amount that was reversed.	ccAuthReversal Reply	String (15)
ccAuthReversalReply_ authorizationCode	Authorization code. Returned only when the authorization code is returned by the processor.	ccAuthReversal Reply	String (6)
ccAuthReversalReply_ processorResponse	Processor response code.	ccAuthReversal Reply	String (10)
ccAuthReversalReply_ reasonCode	Numeric value corresponding to the result of the full authorization reversal request. See Appendix M, "Reason Codes," on page 171.	ccAuthReversal Reply	Integer (5)
ccAuthReversalReply_ requestDateTime	Date and time when the service was requested. Format: YYYY-MM-DDThh:mm:ssZ **Example** 2019-08-11T22:47:57Z equals August 11, 2019, at 22:47:57 (10:47:57 p.m.). The T separates the date and the time. The Z indicates UTC.	ccAuthReversal Reply	String (20)
ccCaptureReply_ amount	Amount that was captured.	ccCaptureReply	String (15)
ccCaptureReply_ reasonCode	Numeric value corresponding to the result of the capture request. See Appendix M, "Reason Codes," on page 171.	ccCaptureReply	Integer (5)
ccCaptureReply_ reconciliationID	Reference number that you use to reconcile your CyberSource reports with your processor reports. See *Getting Started with CyberSource Essentials* for information about order tracking and reconciliation.	ccCaptureReply	FDC Nashville Global: String (8) All other processors: String (60)

Table 38 Reply Fields (Continued)

Field	Description	Returned By	Data Type & Length
ccCaptureReply_ requestDateTime	Date and time when the service was requested. Format: YYYY-MM-DDThh:mm:ssZ **Example** 2019-08-11T22:47:57Z equals August 11, 2019, at 22:47:57 (10:47:57 p.m.). The T separates the date and the time. The Z indicates UTC.	ccCaptureReply	String (20)
ccCreditReply_amount	Amount that was credited.	ccCreditReply	String (15)
ccCreditReply_ ownerMerchantID	Merchant ID that was used to create the subscription or customer profile for which the service was requested. ***Payment Tokenization*** When your account is enabled for Payment Tokenization, this field is returned only when you use profile sharing and when your merchant ID is in the same merchant ID pool as the owner merchant ID. See the profile sharing information in *Payment Tokenization Using the Simple Order API for CyberSource Essentials*. ***Recurring Billing*** When your account is enabled for Recurring Billing, this field is returned only when you use subscription sharing and when your merchant ID is in the same merchant ID pool as the owner merchant ID. See the subscription sharing information in *Recurring Billing Using the Simple Order API for CyberSource Essentials*.	ccCreditReply	String (30)
ccCreditReply_ reasonCode	Numeric value corresponding to the result of the credit request. See Appendix M, "Reason Codes," on page 171.	ccCreditReply	Integer (5)
ccCreditReply_ reconciliationID	Reference number that you use to reconcile your CyberSource reports with your processor reports. See *Getting Started with CyberSource Essentials* for information about order tracking and reconciliation.	ccCreditReply	FDC Nashville Global: String (8) All other processors: String (60)

Table 38 Reply Fields (Continued)

Field	Description	Returned By	Data Type & Length
ccCreditReply_ requestDateTime	Date and time when the service was requested. Format: YYYY-MM-DDThh:mm:ssZ **Example** 2019-08-11T22:47:57Z equals August 11, 2019, at 22:47:57 (10:47:57 p.m.). The T separates the date and the time. The Z indicates UTC.	ccCreditReply	String (20)
decision	Summarizes the result of the overall request. Possible values: ■ ACCEPT ■ ERROR ■ REJECT For details about these values, see the information about handling replies in *Getting Started with CyberSource Essentials*.	All CyberSource services	String (6)
invalidField_0 through invalidField_N	Fields in the request that have invalid data. For information about missing or invalid fields, see *Getting Started with CyberSource Essentials*. **Note** These fields are included as an aid to software developers only. Do not use these fields to interact with your customers.	All CyberSource services	String (100)
merchantReference Code	Order reference or tracking number that you provided in the request. If you included multi-byte characters in this field in the request, the returned value might include corrupted characters. ***FDC Nashville Global*** There are some special circumstances in which the processor truncates this value to 15 or 17 characters for Level II and Level III processing. This can cause a discrepancy between the value you submit and the value included in some processor reports.	All CyberSource services	String (50)
missingField_0 through missingField_N	Required fields that were missing from the request. For information about missing or invalid fields, see *Getting Started with CyberSource Essentials*. **Note** These fields are included as an aid to software developers only. Do not use these fields to interact with your customers.	All CyberSource services	String (100)

Table 38 Reply Fields (Continued)

Field	Description	Returned By	Data Type & Length
originalTransaction_ amount	Amount of the original transaction. See "Merchant-Initiated Reversals and Voids," page 73.	ccAuthReversal Reply voidReply	String (15)
originalTransaction_ reasonCode	Reason code for the original transaction. See "Merchant-Initiated Reversals and Voids," page 73 and Appendix M, "Reason Codes," on page 171.	ccAuthReversal Reply voidReply	String (50)
purchaseTotals_ currency	Currency used for the order. For the possible values, see the *ISO Standard Currency Codes*.	ccAuthReply ccAuthReversal Reply ccCaptureReply ccCreditReply	String (5)
reasonCode	Numeric value corresponding to the result of the overall request. See Appendix M, "Reason Codes," on page 171.	All CyberSource services	Integer (5)
requestID	Identifier for the request.	All CyberSource services	String (26)
requestToken	Request token data created by CyberSource for each reply. The field is an encoded string that contains no confidential information such as an account or card verification number. The string can contain a maximum of 256 characters. **Note** When you request the authorization and capture services together, the request token is for the capture reply only.	All CyberSource services	String (256)
voidReply_amount	Amount that was voided.	voidReply	String (15)
voidReply_currency	Currency used for the order. For the possible values, see the *ISO Standard Currency Codes*.	voidReply	String (5)
voidReply_reasonCode	Numeric value corresponding to the result of the void request. See Appendix M, "Reason Codes," on page 171.	voidReply	Integer (5)
voidReply_ requestDateTime	Date and time when the service was requested. Format: YYYY-MM-DDThh:mm:ssZ **Example** 2019-08-11T22:47:57Z equals August 11, 2019, at 22:47:57 (10:47:57 p.m.). The T separates the date and the time. The Z indicates UTC.	voidReply	String (20)

Table 38 Reply Fields (Continued)

Field	Description	Returned By	Data Type & Length
voidReply_ reversalSubmitted	Flag indicating whether a full authorization reversal was successfully submitted. Possible values: ■ `true`: The authorization reversal was successfully submitted. ■ `false`: The authorization reversal was not successfully submitted. You must send a credit request for a refund. This field is supported only for FDC Nashville Global.	voidReply	String (5)

APPENDIX B

Examples

Name-Value Pair Examples

Basic Credit Card Examples

Example 2 Credit Card Authorization Request

```
ccAuthService_run=true
merchantID=infodev
merchantReferenceCode=482046C3A7E94F5
billTo_firstName=John
billTo_lastName=Doe
billTo_street1=1295 Charleston Rd.
billTo_city=Mountain View
billTo_state=CA
billTo_postalCode=94043
billTo_country=US
billTo_phoneNumber=650-965-6000
billTo_email=jdoe@example.com
item_0_unitPrice=49.95
item_0_quantity=1
purchaseTotals_currency=USD
card_expirationMonth=12
card_expirationYear=2015
card_accountNumber=4111111111111111
```

Example 3 Credit Card Authorization Reply

```
requestID=0305782650000167905080
decision=ACCEPT
reasonCode=100
merchantReferenceCode=482046C3A7E94F5
purchaseTotals_currency=USD
ccAuthReply_reasonCode=100
ccAuthReply_amount=49.95
ccAuthReply_accountBalance=50.05
ccAuthReply_authorizationCode=123456
ccAuthReply_avsCode=Y
ccAuthReply_avsCodeRaw=YYY
ccAuthReply_processorResponse=A
```

Example 4 Credit Card Capture Request

```
ccCaptureService_authRequestID=0305782650000167905080
merchantID=infodev
merchantReferenceCode=482046C3A7E94F5BD1FE3C66C
ccCaptureService_run=true
item_0_unitPrice=49.95
purchaseTotals_currency=USD
```

Example 5 Credit Card Capture Reply

```
requestID=1019827520348290570293
merchantReferenceCode=482046C3A7E94F5BD1FE3C66C
decision=ACCEPT
reasonCode=100
ccCaptureReply_amount=49.95
purchaseTotals_currency=USD
ccCaptureReply_reasonCode=100
ccCaptureReply_reconciliationID=1094820975023470
```

Partial Authorization Examples

Fully Approved Request

The following two examples consist of an authorization request that is fully approved and the subsequent authorization reply, which includes balance information:

- Original request amount: 1500.00 USD
- Approved amount: 1500.00 USD
- Balance amount: 23.62 USD positive

Example 6 Fully Approved Authorization Request

```
ccAuthService_run=true
merchantID=OkGo
merchantReferenceCode=AB1234.1-1
billTo_firstName=John
billTo_lastName=Smith
billTo_street1=201 S. Division St.
billTo_street2=Suite 500
billTo_city=Ann Arbor
billTo_state=MI
billTo_country=US
billTo_postalCode=48104-2201
billTo_email=okgo@example.com
billTo_phoneNumber=123-456-7890
card_accountNumber=4111111111111111
card_cardType=001
card_cvNumber=xxx
card_expirationMonth=12
card_expirationYear=2015
purchaseTotals_currency=USD
purchaseTotals_grandTotalAmount=1500.00
```

Example 7 Fully Approved Authorization Reply

```
merchantReferenceCode=AB1234.1-1
requestID=2688497722340000852964
decision=ACCEPT
reasonCode=100
ccAuthReply_reasonCode=100
ccAuthReply_amount=1500.00
ccAuthReply_avsCode=A
ccAuthReply_avsCodeRaw=A
ccAuthReply_authorizationCode=831000
ccAuthReply_processorResponse=000
ccAuthReply_accountBalance=23.62
ccAuthReply_accountBalanceCurrency=USD
ccAuthReply_accountBalanceSign=positive
ccAuthReply_cardCategory=J1
ccAuthReply_cvCode=3
ccAuthReply_merchantAdviceCode=00
purchaseTotals_currency=USD
```

Partially Approved Request

The following two examples consist of an authorization request that is partially approved and the subsequent authorization reply:

- Original request amount: 1401.00 USD
- Approved amount: 500.00 USD

Example 8 Partially Approved Authorization Request

```
ccAuthService_run=true
merchantID=OkGo
merchantReferenceCode=AB1234.1-1
billTo_firstName=John
billTo_lastName=Smith
billTo_street1=201 S. Division St.
billTo_street2=Suite 500
billTo_city=Ann Arbor
billTo_state=MI
billTo_country=US
billTo_postalCode=48104-2201
billTo_email=okgo@example.com
billTo_phoneNumber=123-456-7890
card_accountNumber=4111111111111111
card_cardType=001
card_cvNumber=xxx
card_expirationMonth=12
card_expirationYear=2015
purchaseTotals_currency=USD
purchaseTotals_grandTotalAmount=1401.00
```

Example 9 Partially Approved Authorization Reply

```
merchantReferenceCode=AB1234.1-1
requestID=268849772234000852964
decision=REJECT
reasonCode=110
ccAuthReply_reasonCode=110
ccAuthReply_amount=500.00
ccAuthReply_avsCode=A
ccAuthReply_avsCodeRaw=A
ccAuthReply_authorizationCode=831000
ccAuthReply_processorResponse=010
ccAuthReply_requestAmount=1401.00
ccAuthReply_requestCurrency=USD
ccAuthReply_cardCategory=J1
ccAuthReply_cvCode=3
ccAuthReply_merchantAdviceCode=00
purchaseTotals_currency=USD
```

XML Examples

Basic Credit Card Examples

Example 10 Credit Card Authorization Request

```
<requestMessage xmlns="urn:schemas-cybersource-com:transaction-data-1.23">
   <merchantID>infodev</merchantID>
   <merchantReferenceCode>482046C3A7E94F5</merchantReferenceCode>
   <billTo>
      <firstName>John</firstName>
      <lastName>Doe</lastName>
      <street1>1295 Charleston Rd.</street1>
      <city>Mountain View</city>
      <state>CA</state>
      <postalCode>94043</postalCode>
      <country>US</country>
      <phoneNumber>650-965-6000</phoneNumber>
      <email>jdoe@example.com</email>
   </billTo>
   <item id="0">
      <unitPrice>49.95</unitPrice>
      <quantity>1</quantity>
   </item>
   <purchaseTotals>
      <currency>USD</currency>
   </purchaseTotals>
   <card>
      <accountNumber>4111111111111111</accountNumber>
      <expirationMonth>12</expirationMonth>
      <expirationYear>2015</expirationYear>
   </card>
   <ccAuthService run="true"/>
</requestMessage>
```

Example 11 Credit Card Authorization Reply

```
<c:replyMessage xmlns:c="urn:schemas-cybersource-com:transaction-data-1.23">
   <c:merchantReferenceCode>482046C3A7E94F5</c:merchantReferenceCode>
   <c:requestID>0305782650000167905080</c:requestID>
   <c:decision>ACCEPT</c:decision>
   <c:reasonCode>100</c:reasonCode>
   <c:purchaseTotals>
      <c:currency>USD</c:currency>
   </c:purchaseTotals>
   <c:ccAuthReply>
      <c:reasonCode>100</c:reasonCode>
      <c:amount>49.95</c:amount>
      <c:authorizationCode>123456</c:authorizationCode>
      <c:avsCode>Y</c:avsCode>
      <c:avsCodeRaw>YYY</c:avsCodeRaw>
      <c:processorResponse>A</c:processorResponse>
      <c:accountBalance>50.05</c:accountBalance>
   </c:ccAuthReply>
</c:replyMessage>
```

Example 12 Credit Card Capture Request

```
<requestMessage xmlns="urn:schemas-cybersource-com:transaction-data-1.37">
   <merchantID>infodev</merchantID>
   <merchantReferenceCode>482046C3A7E94F5BD1FE3C66C</merchantReferenceCode>
   <item id="0">
      <unitPrice>49.95</unitPrice>
      <quantity>1</quantity>
   </item>
   <purchaseTotals>
      <currency>USD</currency>
   </purchaseTotals>
   <ccCaptureService run="true">
      <authRequestID>0305782650000167905080</authRequestID>
   </ccCaptureService>
</requestMessage>
```

Example 13 Credit Card Capture Reply

```
<c:replyMessage xmlns:c="urn:schemas-cybersource-com:transaction-data-1.37">
   <c:merchantReferenceCode>482046C3A7E94F5BD1FE3C66C</c:merchantReferenceCode>
   <c:requestID>5019827520348290570293</c:requestID>
   <c:decision>ACCEPT</c:decision>
   <c:reasonCode>100</c:reasonCode>
   <c:purchaseTotals>
      <c:currency>USD</c:currency>
   </c:purchaseTotals>
   <c:ccCaptureReply>
      <c:reasonCode>100</c:reasonCode>
      <c:amount>49.95</c:amount>
      <c:reconciliationID>1094820975023470</c:reconciliationID>
   </c:ccCaptureReply>
</c:replyMessage>
```

Partial Authorization Examples

Fully Approved Request

The following two examples consist of an authorization request that is fully approved and the subsequent authorization reply, which includes balance information:

- Original request amount: 1500.00 USD
- Approved amount: 1500.00 USD
- Balance amount: 23.62 USD positive

Example 14 Fully Approved Authorization Request

```
<requestMessage xmlns="urn:schemas-cybersource-com:transaction-data-1.52">
   <merchantID>OkGo</merchantID>
   <merchantReferenceCode>AB1234.1-1</merchantReferenceCode>
   <billTo>
      <firstName>John</firstName>
      <lastName>Smith</lastName>
      <street1>201 S. Division St.</street1>
      <street2>Suite 500</street2>
      <city>Ann Arbor</city>
      <state>MI</state>
      <postalCode>48104-2201</postalCode>
      <country>US</country>
      <phoneNumber>123-456-7890</phoneNumber>
      <email>okgo@example.com</email>
   </billTo>
   <purchaseTotals>
      <currency>USD</currency>
      <grandTotalAmount>1500.00</grandTotalAmount>
   </purchaseTotals>
   <card>
      <accountNumber>4111111111111111</accountNumber>
      <expirationMonth>12</expirationMonth>
      <expirationYear>2015</expirationYear>
      <cvNumber>xxx</cvNumber>
      <cardType>001</cardType>
   </card>
   <ccAuthService run="true"/>
</requestMessage>
```

Example 15 Fully Approved Authorization Reply

```
<c:replyMessage xmlns:c="urn:schemas-cybersource-com:transaction-data-1.52">
   <c:merchantReferenceCode>AB1234.1-1</c:merchantReferenceCode>
   <c:requestID>2688497722340000852964</c:requestID>
   <c:decision>ACCEPT</c:decision>
   <c:reasonCode>100</c:reasonCode>
   <c:purchaseTotals><c:currency>USD</c:currency></c:purchaseTotals>
   <c:ccAuthReply>
      <c:reasonCode>100</c:reasonCode>
      <c:amount>1500.00</c:amount>
      <c:authorizationCode>831000</c:authorizationCode>
      <c:avsCode>A</c:avsCode>
      <c:avsCodeRaw>A</c:avsCodeRaw>
      <c:cvCode>3</c:cvCode>
      <c:processorResponse>000</c:processorResponse>
      <c:merchantAdviceCode>00</c:merchantAdviceCode>
      <c:accountBalance>23.62</c:accountBalance>
      <c:cardCategory>J1</c:cardCategory>
      <c:accountBalanceCurrency>USD</c:accountBalanceCurrency>
      <c:accountBalanceSign>positive</c:accountBalanceSign>
   </c:ccAuthReply>
</c:replyMessage>
```

Partially Approved Request

The following two examples consist of an authorization request that is partially approved and the subsequent authorization reply:

- Original request amount: 1401.00 USD
- Approved amount: 500.00 USD

Example 16 Partially Approved Authorization Request

```
<requestMessage xmlns="urn:schemas-cybersource-com:transaction-data-1.52">
   <merchantID>OkGo</merchantID>
   <merchantReferenceCode>AB1234.1-1</merchantReferenceCode>
   <billTo>
      <firstName>John</firstName>
      <lastName>Smith</lastName>
      <street1>201 S. Division St.</street1>
      <street2>Suite 500</street2>
      <city>Ann Arbor</city>
      <state>MI</state>
      <postalCode>48104-2201</postalCode>
      <country>US</country>
      <phoneNumber>123-456-7890</phoneNumber>
      <email>okgo@example.com</email>
   </billTo>
   <purchaseTotals>
      <currency>USD</currency>
      <grandTotalAmount>1401.00</grandTotalAmount>
   </purchaseTotals>
   <card>
      <accountNumber>4111111111111111</accountNumber>
      <expirationMonth>12</expirationMonth>
      <expirationYear>2015</expirationYear>
      <cvNumber>xxx</cvNumber>
      <cardType>001</cardType>
   </card>
   <ccAuthService run="true"/>
</requestMessage>
```

Example 17 Partially Approved Authorization Reply

```
<c:replyMessage xmlns:c="urn:schemas-cybersource-com:transaction-data-1.52">
   <c:merchantReferenceCode>AB1234.1-1</c:merchantReferenceCode>
   <c:requestID>2688497722340000852964</c:requestID>
   <c:decision>REJECT</c:decision>
   <c:reasonCode>110</c:reasonCode>
   <c:purchaseTotals><c:currency>USD</c:currency></c:purchaseTotals>
   <c:ccAuthReply>
      <c:reasonCode>110</c:reasonCode>
      <c:amount>500.00</c:amount>
      <c:authorizationCode>831000</c:authorizationCode>
      <c:avsCode>A</c:avsCode>
      <c:avsCodeRaw>A</c:avsCodeRaw>
      <c:cvCode>3</c:cvCode>
      <c:processorResponse>010</c:processorResponse>
      <c:merchantAdviceCode>00</c:merchantAdviceCode>
      <c:cardCategory>J1</c:cardCategory>
      <c:requestAmount>1401.00</c:requestAmount>
      <c:requestCurrency>USD</c:requestCurrency>
   </c:ccAuthReply>
</c:replyMessage>
```

APPENDIX C

American Express SafeKey Response Codes

The American Express SafeKey response code is returned in **ccAuthReply_cavvResponseCode** in the reply message for an authorization request. See "American Express SafeKey," page 80, for a description of American Express SafeKey.

Table 39 American Express SafeKey Response Codes

Response Code	Description
1	CAVV failed validation and authentication.
2	CAVV passed validation and authentication.
3	CAVV passed the validation attempt.
4	CAVV failed the validation attempt.
7	CAVV failed the validation attempt and the issuer is available.
8	CAVV passed the validation attempt and the issuer is available.
9	CAVV failed the validation attempt and the issuer is not available.
A	CAVV passed the validation attempt and the issuer is not available.
U	Issuer does not participate or 3D secure data was not used.
99	An unknown value was returned from the processor.

APPENDIX D

AVS Codes

The AVS code is returned in **ccAuthReply_avsCode** in the authorization reply message. See "Address Verification System (AVS)," page 43, for a description of AVS.

Table 40 Types of AVS Codes

Type of Codes	Codes	Description
Codes for American Express Cards	F, H, K, L, O, T, V	**Note** For American Express cards only. For American Express cards, you can receive Visa and CyberSource AVS codes in addition to the American Express AVS codes.
International Visa Codes	B, C, D, G, I, M, P	The international and domestic alphabetic AVS codes are the Visa standard AVS codes. CyberSource maps the standard AVS return codes for other types of payment cards, including American Express cards, to the Visa standard AVS codes. AVS is considered either domestic or international, depending on the location of the bank that issued the customer's payment card: ■ When the bank is in the U.S., the AVS is domestic. ■ When the bank is outside the U.S., the AVS is international. You should be prepared to handle both domestic and international AVS result codes: ■ For international cards, you can receive domestic AVS codes in addition to the international AVS codes. ■ For domestic cards, you can receive international AVS codes in addition to the domestic AVS codes.
Domestic Visa Codes	A, E, N, R, S, U, W, X, Y, Z	
CyberSource Codes	1, 2	The numeric AVS codes are created by CyberSource and are not standard Visa codes. These AVS codes can be returned for any card type.

Table 41 AVS Codes

Code	Description
A	Partial match: street address matches, but 5-digit and 9-digit postal codes do not match.
B	Partial match: street address matches, but postal code is not verified. Returned only for Visa cards not issued in the U.S.
C	No match: street address and postal code do not match. Returned only for Visa cards not issued in the U.S.
D & M	Match: street address and postal code match. Returned only for Visa cards not issued in the U.S.
E	Invalid: AVS data is invalid or AVS is not allowed for this card type.
F	Partial match: card member's name does not match, but billing postal code matches.
G	Not supported: issuing bank outside the U.S. does not support AVS.
H	Partial match: card member's name does not match, but street address and postal code match. Returned only for the American Express card type.
I	No match: address not verified. Returned only for Visa cards not issued in the U.S.
K	Partial match: card member's name matches, but billing address and billing postal code do not match. Returned only for the American Express card type.
L	Partial match: card member's name and billing postal code match, but billing address does not match. Returned only for the American Express card type.
M	See the entry for D & M.
N	No match: one of the following: ■ Street address and postal code do not match. ■ Card member's name, street address, and postal code do not match. Returned only for the American Express card type.
O	Partial match: card member's name and billing address match, but billing postal code does not match. Returned only for the American Express card type.
P	Partial match: postal code matches, but street address not verified. Returned only for Visa cards not issued in the U.S.
R	System unavailable.
S	Not supported: issuing bank in the U.S. does not support AVS.
T	Partial match: card member's name does not match, but street address matches. Returned only for the American Express card type.
U	System unavailable: address information unavailable for one of these reasons: ■ The U.S. bank does not support AVS outside the U.S. ■ The AVS in a U.S. bank is not functioning properly.
V	Match: card member's name, billing address, and billing postal code match. Returned only for the American Express card type.
W	Partial match: street address does not match, but 9-digit postal code matches.
X	Match: street address and 9-digit postal code match.
Y	Match: street address and 5-digit postal code match.

Table 41 AVS Codes (Continued)

Code	Description
Z	Partial match: street address does not match, but 5-digit postal code matches.
1	Not supported: one of the following: ■ AVS is not supported for this processor or card type. ■ AVS is disabled for your CyberSource account. To enable AVS, contact CyberSource Customer Support.
2	Unrecognized: the processor returned an unrecognized value for the AVS response.
3	Match: address is confirmed. Returned only for PayPal Express Checkout.
4	No match: address is not confirmed. Returned only for PayPal Express Checkout.
5	No match: no AVS code was returned by the processor.

APPENDIX E

Chargeback Reason Codes

Chargeback Reason Codes for Visa

Table 42 Chargeback Reason Codes for Visa

Reason Code	Description
30	Services Not Provided or Merchandise Not Received
31	Error in Addition
41	Cancelled Recurring Transaction
50	Credit Posted as Purchase
53	Not as Described
56	Defective Merchandise
60	Requested Copy Illegible
61	Fraudulent Mail/Phone Order Transaction
71	Authorization Request Declined / Authorization Declined
72	No Authorization / Transaction Exceeds Floor Limit
74	Late Presentment
75	Cardholder Does Not Recognize the Transaction
79	Requested Transaction Information Not Received
82	Duplicate Processing
83	Nonpossession of Card
85	Credit Not Processed
86	Paid by Other Means
90	Nonreceipt of Merchandise

Chargeback Reason Codes for Mastercard

Table 43 Chargeback Reason Codes for Mastercard

Reason Code	Description
01	Requested Transaction Data Not Received
02	Requested Item Illegible
08	Requested / Required Authorization Not Obtained
12	Account Number Not on File
31	Transaction Amount Differs
34	Duplicate Processing
35	Card Not Valid or Expired
37	Fraudulent Mail/Phone Order Transaction
41	Cancelled Recurring Transaction
42	Late Presentment
47	Exceeds Floor Limit, Not Authorized, and Fraudulent Transactions
50	Credit Posted as a Debit
53	Cardholder Dispute Defective / Not as Described
54	Cardholder Dispute-Not Elsewhere (U.S. only)
55	Nonreceipt of Merchandise
59	Services Not Rendered
60	Credit Not Processed
63	Cardholder Does Not Recognize - Potential Fraud

APPENDIX F

Commerce Indicators

The commerce indicator is a request value that you send in the **ccAuthService_commerceIndicator** and **ccCreditService_commerceIndicator** fields.

Table 44 Commerce Indicators

Values	Description
`aesk` and `aesk_attempted`	See "American Express SafeKey," page 80.
`install` and `install_internet`	See "Installment Payments," page 70.
`internet` (default)	**Note** E-commerce order placed using a web site.
`js` and `js_attempted`	See "JCB J/Secure," page 77.
`moto`	**Note** Mail order or telephone order.
`recurring` and `recurring_internet`	See "Recurring Payments," page 84. ▪ `recurring`—U.S. transaction or non-U.S. mail order / telephone order (MOTO) transaction ▪ `recurring_internet`—non-U.S. e-commerce (Internet) transaction
`retail`	See *Card-Present Transactions Supplement*.
`spa` and `spa_failure`	See "Mastercard SecureCode," page 78.
`vbv`, `vbv_attempted`, and `vbv_failure`	See "Verified by Visa," page 75.

APPENDIX G

CVN Codes

The CVN code is returned in **ccAuthReply_cvCode** in the authorization reply message. See "Card Verification Numbers (CVNs)," page 47, for a description of CVN.

Table 45 CVN Codes

Code	Description
D	The transaction was determined to be suspicious by the issuing bank.
I	The CVN failed the processor's data validation check.
M	The CVN matched.
N	The CVN did not match.
P	The CVN was not processed by the processor for an unspecified reason.
S	The CVN is on the card but was not included in the request.
U	Card verification is not supported by the issuing bank.
X	Card verification is not supported by the payment card company.
1	Card verification is not supported for this processor or card type.
2	An unrecognized result code was returned by the processor for the card verification response.
3	No result code was returned by the processor.

APPENDIX H

Electronic Verification Response Codes

See "Electronic Verification (EV)," page 45, for a list of the fields in which the Electronic Verification response codes are returned. The following table describes the mapped response codes.

Table 46 Electronic Verification Mapped Response Codes

Response Code	Description
F	First name matches; last name does not match.
L	Last name matches; first name does not match.
M	First name and last name match.
N	No, the data does not match.
P	The processor did not return verification information.
R	The system is unavailable, so retry.
S	The verification service is not available.
U	Verification information is not available.
Y	Yes, the data matches.
1	Electronic verification did not generate a response.
2	The processor returned an unrecognized value.

Frequently Asked Questions

What kind of bank account do I need to accept payment cards?

You need a merchant bank account that is configured to process card-not-present or mail order/telephone order (MOTO) transactions. See "Acquiring (Merchant) Banks," page 15.

What types of payment cards can my customers use?

CyberSource can accept payments made with numerous types of payment cards, including Visa, Mastercard, Discover, and American Express. In addition, CyberSource can accept most offline debit cards, which are also known as check cards, many private label cards, and Level II purchasing cards. Your payment processor can limit the types of cards that you can accept. See "Payment Processors," page 18, or contact your CyberSource account representative.

Do I need to sign agreements with the payment card companies?

Some payment card companies, such as American Express and Discover, require you to sign agreements with them. For other card types, such as Visa and Mastercard, you can usually sign a single contract with your acquiring bank or payment processor. Your acquiring bank can help ensure that you sign all of the necessary agreements.

Can I use more than one payment processor or merchant account provider?

Yes. CyberSource can provide you with multiple CyberSource merchant IDs and configure each one to use a different payment processor or merchant account provider.

What happens when my customers commit fraud?

You could be liable for fraudulent transactions. When customers complain that you charged their accounts improperly, you might be required to return their money at your expense; this is known as a chargeback. If you receive a large number of chargebacks, or if a large number of your customers commit fraud, your acquiring bank might raise your fees or revoke your merchant bank account. Contact your CyberSource account representative for information about CyberSource products that can help prevent fraud.

When do authorizations expire?

Most authorizations expire within five to seven days, but the bank or company that issued the card decides how long an authorization lasts.

When an authorization expires, will I be able to charge my customer?

Yes. CyberSource is not notified when an authorization expires, so it is possible to capture an expired authorization. However, the capture might be downgraded, which would increase your fees for the transaction. Additionally, the payment card company can decide not to capture expired authorizations.

If you believe that an authorization expired, you can request a new authorization, then capture the new authorization. However, the new authorization could be denied if the customer's credit limit has been exceeded, if the card has expired, or if the card has been cancelled.

Can I reverse an authorization?

Yes. Some processors allow you to reverse an authorization, which releases the hold that the authorization placed on the customer's payment card funds. For the list of processors that allow you to reverse an authorization, see "Reversing an Authorization," page 25.

If your processor does not support authorization reversals and you need to reverse an authorization, contact the customer's issuing bank or wait for the authorization to expire.

Can I cancel a capture or credit?

Yes. For some processors, you can use the void service to cancel a capture or credit that you have previously requested. You must request the void before CyberSource submits the capture or credit request to your payment processor. See "Voiding a Capture or Credit," page 41.

How can I prevent my customers from clicking the "Buy" button more than once?

Use one or more of these options:

- After a customer clicks the "Buy" button, send the customer to a new web page
- After a customer clicks the "Buy" button, hide or disable the button

The Support Center provides sample JavaScript code to disable the "Buy" button after a customer clicks it. The code is available at:

http://www.cybersource.com/support_center/implementation/best_practices/view.xml?page_id=415

Can I change the company name and phone number that appears on my customers' payment card statements?

CyberSource permits you to change these values, which are called merchant descriptors, when you use a payment processor that supports this feature. After your processor configures the merchant descriptors for your account, you can choose which merchant descriptor to use every time you request a transaction. You must also contact CyberSource and your processor to specify default merchant descriptors for your account. See "Merchant Descriptors," page 72.

When do my capture and credit transactions appear on my CyberSource reports?

Capture and credit transactions usually appear on your reports two calendar days after you request them. However, it might take longer for funds to be transferred.

When are funds transferred between my customer's bank account and my company's bank account?

Funds are usually transferred within two to three days after you request a capture or credit.

APPENDIX J

Network Transaction Identifiers

The network transaction identifier is returned in **ccAuthReply_ paymentNetworkTransactionID** in the authorization reply message.

GPN

For GPN, the following values are returned for each card type:

- American Express: The payment card company generates this value. CyberSource saves this value and sends it to the processor in all subsequent capture requests.
- Discover: The payment card company generates this value. CyberSource saves this value and sends it to the processor in all subsequent requests for full authorization reversals and captures.
- Mastercard: The payment card company generates this value. CyberSource saves it and sends it to the processor in all subsequent requests for full authorization reversals and captures. Format:

  Bits 1-9: Banknet reference number generated by Mastercard for each transaction

  Bits 10-13: Banknet date

  Bits 14-15: Spaces
- Visa: The payment card company generates this value. CyberSource saves it and sends it to the processor in all subsequent requests for full authorization reversals and captures.
- Other Card Types: Not used.

APPENDIX K

Product Codes

The following table lists the values you can use for the product code in the **item_#_ productCode** request field.

Table 47 Product Codes

Product Code	Definition
adult_content	Adult content.
coupon	Coupon applied to the entire order.
default	Default value for the product code. CyberSource uses `default` when a request message does not include a value for the product code.
electronic_good	Electronic product other than software.
electronic_software	Software distributed electronically rather than on disks or other media.
gift_certificate	Gift certificate.
handling_only	Fee that you charge your customer to cover your administrative selling costs.
service	Service that you perform for your customer.
shipping_and_handling	The shipping portion is the charge for shipping the product to your customer. The handling portion is the fee you charge your customer to cover your administrative selling costs.
shipping_only	Charge for transporting tangible personal property from your location to your customer. You must maintain documentation that clearly establishes the location where the title to the property passed from you to your customer.
subscription	Subscription to a web site or other content.

APPENDIX L

Product IDs

The Visa or Mastercard product ID is returned in **ccAuthReply_cardCategory** in the authorization reply message.

For descriptions of the Visa product IDs, see the Product ID table on the Visa Request & Response Codes web page:

https://developer.visa.com/guides/request_response_codes

Mastercard Product IDs

Note

Mastercard can introduce new values for this field without advance notice. See the Mastercard technical documentation for additional information.

Table 48 Mastercard Product IDs

Value	Description	Value	Description
CBL	Carte Blanche	MOC	Standard Maestro Social
DAG	Gold Debit Mastercard Salary	MPA	Prepaid Mastercard Payroll Card
DAP	Platinum Debit Mastercard Salary	MPB	Mastercard Preferred Business Card
DAS	Standard Debit Mastercard Salary	MPC	Mastercard Professional Card
DCC	Diners Club	MPD	Mastercard Flex Prepaid (Canada only)
DOS	Standard Debit Mastercard Social	MPF	Prepaid Mastercard Gift Card
JCB	Japanese Credit Bureau	MPG	Prepaid Mastercard Consumer Reloadable Card
MAB	World Elite Mastercard for Business	MPJ	Prepaid Debit Mastercard Card Gold
MAC	Mastercard Corporate World Elite	MPK	Prepaid Mastercard Government Commercial Card
MAP	Mastercard Commercial Payments Account product	MPL	Platinum Mastercard Card
MAQ	Mastercard Prepaid Commercial Payments Account	MPM	Prepaid Mastercard Consumer Promotion Card

Table 48 Mastercard Product IDs (Continued)

Value	Description	Value	Description
MAV	Mastercard Activation Verification	MPN	Prepaid Mastercard Insurance Card
MBB	Mastercard Prepaid Consumer	MPO	Prepaid Mastercard Other Card
MBC	Mastercard Prepaid Voucher	MPR	Prepaid Mastercard Travel Card
MBD	Deferred Debit Mastercard BusinessCard	MPT	Prepaid Mastercard Teen Card
MBE	Mastercard Electronic Business Card	MPV	Prepaid Mastercard Government Benefit Card
MBP	Mastercard Corporate Prepaid	MPW	Prepaid Mastercard Corporate Card
MBT	Mastercard Corporate Prepaid Travel	MPX	Prepaid Mastercard Flex Benefit Card
MCB	Mastercard BusinessCard/ Mastercard Corporate Card	MPY	Prepaid Mastercard Employee Incentive Card
MCC	Mastercard Card	MPZ	Prepaid Mastercard Emergency Assistance Card
MCE	Mastercard Electronic Card	MRB	Prepaid Mastercard Electronic BusinessCard
MCF	Mastercard Electronic Fleet Card	MRC	Prepaid Mastercard Electronic Card
MCG	Gold Mastercard Card	MRG	Prepaid Mastercard Card Outside U.S.
MCM	Mastercard Corporate Meeting Card	MRH	Mastercard Platinum Prepaid Travel Card
MCO	Mastercard Corporate	MRJ	Prepaid Mastercard Gold Card
MCP	Mastercard Corporate Purchasing Card	MRK	Prepaid Mastercard Electronic Commercial
MCS	Mastercard Standard Card	MRL	Prepaid Mastercard Electronic Commercial
MCW	World Mastercard Card	MRS	Prepaid Mastercard ISIC Student Card
MCX	Mastercard Card (international use)	MRW	Prepaid Mastercard BusinessCard Credit Outside U.S.
MDB	Debit Mastercard BusinessCard	MSI	Maestro point-of-sale debit program
MDG	Debit Gold Mastercard	MTP	Mastercard Platinum Prepaid Travel Card
MDL	Business Debit Other Embossed	MUS	Prepaid Mastercard Unembossed U.S.
MDM	Middle Market Fleet Card	MWB	World Mastercard for Business
MDN	Middle Market Purchasing Card	MWE	Mastercard World Elite
MDO	Debit Mastercard Other	MWO	Mastercard Corporate World
MDP	Debit Mastercard Platinum	PRO	Proprietary Card

Table 48 Mastercard Product IDs (Continued)

Value	Description	Value	Description
MDQ	Middle Market Corporate Card	PVL	Private label card
MDS	Debit Mastercard	SAG	Gold Mastercard Salary-Immediate Debit
MDT	Mastercard Business Debit	SAL	Standard Maestro Salary
MDW	Mastercard Black Debit/World Elite Debit Mastercard	SAP	Platinum Mastercard Salary-Immediate Debit
MEB	Mastercard Executive BusinessCard	SAS	Standard Mastercard Salary-Immediate Debit
MEC	Mastercard Electronic Commercial	SOS	Standard Mastercard Social-Immediate Debit
MEF	Mastercard Electronic Payment Account	SUR	Prepaid Mastercard Unembossed Outside U.S.
MEO	Mastercard Corporate Executive Card	TBE	Business-Immediate Debit
MET	Titanium Debit Mastercard	TCB	Mastercard Business Card-Immediate Debit
MGF	Mastercard Government Commercial Card	TCF	Mastercard Fleet Card-Immediate Debit
MHA	Mastercard Healthcare Prepaid Non-tax	TCO	Mastercard Corporate-Immediate Debit
MHB	Mastercard HSA Substantiated	TCP	Mastercard Purchasing Card-Immediate Debit
MHC	Mastercard Healthcare Credit Non-substantiated	TDN	Middle Market Mastercard Purchasing Card-Immediate Debit
MHH	Mastercard HSA Non-substantiated	TEB	Mastercard Executive BusinessCard-Immediate Debit
MIA	Mastercard Unembossed Prepaid Student Card	TEC	Mastercard Electronic Commercial-Immediate Debit
MIK	Mastercard Electronic Consumer Prepaid Non U.S. Student Card	TEO	Mastercard Corporate Executive Card-Immediate Debit
MIL	Mastercard Unembossed Prepaid Non U.S. Student Card	TLA	Mastercard Central Travel Solutions Air-Immediate Debit
MIP	Mastercard Debit Prepaid Student Card	TNF	Mastercard Public Sector Commercial Card-Immediate Debit
MLA	Mastercard Central Travel Solutions Air	TPB	Mastercard Preferred Business Card-Immediate Debit
MLC	Mastercard Micro-Business Card	TPC	Mastercard Professional Card-Immediate Debit
MLD	Mastercard Distribution Card	WDR	World Debit Mastercard Rewards
MLL	Mastercard Central Travel Solutions Land	WMR	World Mastercard Rewards

Table 48 Mastercard Product IDs (Continued)

Value	Description	Value	Description
MNF	Mastercard Public Sector Commercial Card		

APPENDIX M

Reason Codes

The following table describes the reason codes returned by the Simple Order API for the credit card services. For a description of replies, decisions, and reason codes, see the information about handling replies in *Getting Started with CyberSource Essentials*.

Important

Because CyberSource can add reply fields and reason codes at any time:

- You must parse the reply data according to the names of the fields instead of the field order in the reply. For more information about parsing reply fields, see the documentation for your client.
- Your error handler should be able to process new reason codes without problems.
- Your error handler should use the **decision** field to determine the result if it receives a reason code that it does not recognize.

Table 49 Reason Codes

Reason Code	Description
100	Successful transaction.
101	The request is missing one or more required fields. Possible action: see the reply fields **missingField_0** through **missingField_N** for which fields are missing. Resend the request with the complete information. For information about missing or invalid fields, see *Getting Started with CyberSource Essentials*.
102	One or more fields in the request contains invalid data. Possible action: see the reply fields **invalidField_0** through **invalidField_N** for which fields are invalid. Resend the request with the correct information. For information about missing or invalid fields, see *Getting Started with CyberSource Essentials*.
104	The merchant reference code for this authorization request matches the merchant reference code of another authorization request that you sent within the past 15 minutes. Possible action: Resend the request with a unique merchant reference code.
110	Only a partial amount was approved. Possible action: see "Partial Authorizations," page 52.

Table 49 Reason Codes (Continued)

Reason Code	Description
150	General system failure. See the documentation for your CyberSource client for information about handling retries in the case of system errors.
151	The request was received but there was a server timeout. This error does not include timeouts between the client and the server. Possible action: To avoid duplicating the transaction, do not resend the request until you have reviewed the transaction status in the Business Center. See the documentation for your CyberSource client for information about handling retries in the case of system errors.
152	The request was received, but a service did not finish running in time. Possible action: To avoid duplicating the transaction, do not resend the request until you have reviewed the transaction status in the Business Center. See the documentation for your CyberSource client for information about handling retries in the case of system errors.
200	The authorization request was approved by the issuing bank but declined by CyberSource because it did not pass the Address Verification System (AVS) check. Possible action: You can capture the authorization, but consider reviewing the order for the possibility of fraud.
201	The issuing bank has questions about the request. You do not receive an authorization code programmatically, but you might receive one verbally by calling the processor. Possible action: Call your processor to possibly receive a verbal authorization. For contact phone numbers, refer to your merchant bank information.
202	Expired card. You might also receive this value if the expiration date you provided does not match the date the issuing bank has on file. Possible action: Request a different card or other form of payment.
203	General decline of the card. No other information was provided by the issuing bank. Possible action: Request a different card or other form of payment.
204	Insufficient funds in the account. Possible action: Request a different card or other form of payment.
205	Stolen or lost card. Possible action: Review this transaction manually to ensure that you submitted the correct information.
207	Issuing bank unavailable. Possible action: Wait a few minutes and resend the request.
208	Inactive card or card not authorized for card-not-present transactions. Possible action: Request a different card or other form of payment.

Table 49 Reason Codes (Continued)

Reason Code	Description
209	CVN did not match. Possible action: Request a different card or other form of payment.
210	The card has reached the credit limit. Possible action: Request a different card or other form of payment.
211	Invalid CVN. Possible action: Request a different card or other form of payment.
221	The customer matched an entry on the processor's negative file. Possible action: Review the order and contact the payment processor.
230	The authorization request was approved by the issuing bank but declined by CyberSource because it did not pass the CVN check. Possible action: You can capture the authorization, but consider reviewing the order for the possibility of fraud.
231	Invalid account number. Possible action: Request a different card or other form of payment.
232	The card type is not accepted by the payment processor. Possible action: Contact your merchant bank to confirm that your account is set up to receive the card in question.
233	General decline by the processor. Possible action: Request a different card or other form of payment.
234	There is a problem with the information in your CyberSource account. Possible action: Do not resend the request. Contact CyberSource Customer Support to correct the information in your account.
235	The requested capture amount exceeds the originally authorized amount. Possible action: Issue a new authorization and capture request for the new amount.
236	Processor failure. Possible action: Wait a few minutes and resend the request.
237	The authorization has already been reversed. Possible action: No action required.
238	The authorization has already been captured. Possible action: No action required.
239	The requested transaction amount must match the previous transaction amount. Possible action: Correct the amount and resend the request.
240	The card type sent is invalid or does not correlate with the payment card number. Possible action: Confirm that the card type correlates with the payment card number specified in the request, then resend the request.

Table 49 Reason Codes (Continued)

Reason Code	Description
241	The request ID is invalid. Possible action: Request a new authorization, and if successful, proceed with the capture.
242	You requested a capture, but there is no corresponding, unused authorization record. Occurs if there was not a previously successful authorization request or if the previously successful authorization has already been used by another capture request. Possible action: Request a new authorization, and if successful, proceed with the capture.
243	The transaction has already been settled or reversed. Possible action: No action required.
246	One of the following: ■ The capture or credit is not voidable because the capture or credit information has already been submitted to your processor. *- or -* ■ You requested a void for a type of transaction that cannot be voided. Possible action: No action required.
247	You requested a credit for a capture that was previously voided. Possible action: No action required.
250	The request was received, but there was a timeout at the payment processor. Possible action: To avoid duplicating the transaction, do not resend the request until you have reviewed the transaction status in the Business Center.
254	Stand-alone credits are not allowed. Possible action: Submit a follow-on credit by including a request ID in the credit request. A follow-on credit must be requested within 60 days of the authorization. To process stand-alone credits, contact your CyberSource account representative to learn whether your processor supports stand-alone credits.
256	Credit amount exceeds maximum allowed for your CyberSource account. Possible action: Contact CyberSource Customer Support or your acquirer for details.
520	The authorization request was approved by the issuing bank but declined by CyberSource based on your Smart Authorization settings. Possible action: Do not capture the authorization without further review. Review the **ccAuthReply_avsCode**, **ccAuthReply_cvCode**, and **ccAuthReply_ authFactorCode** fields to discover why CyberSource rejected the request. For information about Smart Authorization, see the *Business Center User Guide*.

APPENDIX N

Smart Authorization Factor Codes

The Smart Authorization factor code is returned in **ccAuthReply_authFactorCode** in the reply message for an authorization request. For information about Smart Authorization, see the *Business Center User Guide*.

Table 50 Smart Authorization Factor Codes

Code	Description
J	Billing and shipping address do not match.
M	Cost of the order exceeds the maximum transaction amount.
N	Nonsensical input in the customer name or address fields.
O	Obscenities in the order form.
U	Unverifiable billing or shipping address.
X	Order does not comply with the USA PATRIOT Act.

APPENDIX O

Verified by Visa Response Codes

The Verified by Visa response code is returned in **ccAuthReply_cavvResponseCode** in the reply message for an authorization request. See "Verified by Visa," page 75, for a description of Verified by Visa.

Table 51 Verified by Visa Response Codes

Response Code	Description
0	CAVV not validated because erroneous data was submitted.
1	CAVV failed validation and authentication.
2	CAVV passed validation and authentication.
3	CAVV passed the validation attempt.
4	CAVV failed the validation attempt.
6	CAVV not validated because the issuer does not participate.
7	CAVV failed the validation attempt and the issuer is available.
8	CAVV passed the validation attempt and the issuer is available.
9	CAVV failed the validation attempt and the issuer is not available.
A	CAVV passed the validation attempt and the issuer is not available.
B	CAVV passed the validation with information only; no liability shift.
C	CAVV attempted but not validated; issuer did not return CAVV code.
D	CAVV not validated or authenticated; issuer did not return CAVV code.
I	Invalid security data.
U	Issuer does not participate or 3-D secure data was not used.
99	An unknown value was returned from the processor.

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