Token Management Service

Using the Simple Order API

January 2019

CyberSource®

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Contents

Recent Revisions to This Document

Release	Changes
January 2019	Updated the link for MIT FAQs. See "Merchant-Initiated Transactions," page 16.
	Added information about automatically preauthorizing an account. See "Automatically Preauthorizing an Account," page 16.
	Updated the procedure for updating a customer token. See "Updating a Customer Token," page 22.
	Updated the description for the **card_cardType** field. See "Request Fields," page 29.
	Added the following reply fields. See "Reply Fields," page 40.
	■ paySubscriptionRetrieveReply_cardExpirationMonth
	■ paySubscriptionRetrieveReply_cardExpirationYear
	■ paySubscriptionRetrieveReply_cardIssueNumber
	■ paySubscriptionRetrieveReply_cardStartMonth
	■ paySubscriptionRetrieveReply_cardStartYear
	■ paySubscriptionRetrieveReply_cardType
	■ paySubscriptionRetrieveReply_currency
	■ paySubscriptionRetrieveReply_frequency
	■ paySubscriptionRetrieveReply_merchantDefinedDataField1-4
	■ paySubscriptionRetrieveReply_merchantSecureDataField1-4
	■ paySubscriptionRetrieveReply_paymentMethod
	■ paySubscriptionRetrieveReply_phoneNumber
	■ paySubscriptionRetrieveReply_shipToCompanyName
	■ paySubscriptionRetrieveReply_status
	■ paySubscriptionRetrieveReply_street1
	Updated Example 1, "Request: Create a Customer Token," on page 46.
	Added Appendix C, "Card Types," on page 55.

Release	Changes
October 2018	Updated information about the payment identifier token and formats for all token types. See Table 2, "Token Types and Formats," on page 11.
	Added information about merchant-initiated transactions. See "Merchant-Initiated Transactions," page 16.
	Added notifications for COF network tokens. See "COF Network Token Notifications," page 27.
September 2018	Updated the token descriptions and added support for electronic checks. See Table 2, "Token Types and Formats," on page 11.
	Added COF network tokens. See Chapter 3, "Creating Credentials-on-File Network Tokens," on page 25.
	Added the following request fields. See "Request Fields," page 29.
	■ billTo_companyTaxID
	■ billTo_driversLicenseNumber
	■ billTo_driversLicenseState
	■ card_cvNumber
	■ check_accountNumber
	■ check_accountType
	■ check_bankTransitNumber
	■ check_checkNumber
	■ check_secCode
	Added the **paymentAccountReference** reply field. See "Reply Fields," page 40.
	Updated descriptions for the following reply fields. See "Reply Fields," page 40.
	■ paySubscriptionCreateReply_instrumentIdentifierNew
	■ paySubscriptionCreateReply_instrumentIdentifierSuccessorID
	■ paySubscriptionRetrieveReply_instrumentIdentifierSuccessorID
	■ paySubscriptionUpdateReply_instrumentIdentifierNew
	■ paySubscriptionUpdateReply_instrumentIdentifierSuccessorID
June 2018	Changed the name of *Carte Bleue* to *Cartes Bancaires*.
	Added the following supported processors. See Table 3, "Supported Processors and Payment Methods," on page 14.
	■ Credit Mutuel-CIC
	■ Elavon Americas
	Litle: changed processor name to *Worldpay VAP*.

Release	Changes
March 2018	Updated Table 2, "Token Types and Formats," on page 11:
	■ Updated token format for Instrument Identifier and Customer.
	■ Added Payouts to the description for all three token types.
	Added the Payouts payment method to the rows for CyberSource through VisaNet and FDC Compass in Table 3, "Supported Processors and Payment Methods," on page 14.
	Updated **card_cardType** with value for China UnionPay. See Table 5, "Request Fields," on page 29.
	Updated the possible values for **paySubscriptionCreateReply_ instrumentIdentifierNew** and **paySubscriptionUpdateReply_ instrumentIdentifierNew**. See Table 6, "Reply Fields," on page 40.
	Updated the Required/Optional value for **subscription_paymentMethod**. See Table 5, "Request Fields," on page 29.
	Removed **paySubscriptionRetrieveReply_instrumentIdentifierNew**.
	Updated definition for **paySubscriptionCreateReply_subscriptionID**. See Table 6, "Reply Fields," on page 40.
	Updated several examples:
	■ Example 3, "Request: Authorize and Create a Customer Token," on page 48.
	■ Example 10, "Reply: Update Merchant Defined Data for a Customer Token," on page 54.
September 2017	Added support for the new China UnionPay card for FDC Nashville Global processor. See Table 3, "Supported Processors and Payment Methods," on page 14.
	Added support for the Maestro International card for FDC Nashville Global. See Table 3, "Supported Processors and Payment Methods," on page 14.

About This Guide

Audience and Purpose

This guide is written for merchants who want to tokenize customers' sensitive personal information and eliminate payment data from their networks to ensure that it is not compromised during a security breach.

The purpose of this guide is to help you create and manage tokens.

Conventions

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

Important	An *Important* statement contains information essential to successfully completing a task or learning a concept.

Text and Command Conventions

Convention	Usage
Bold	■ Field and service names in text; for example: Include the **paySubscriptionCreateService_run** field. ■ Items that you are instructed to act upon; for example: Click **Save**.
`Screen text`	■ XML elements. ■ Code examples and samples. ■ Text that you enter in an API environment; for example: Set the **paySubscriptionCreateService_run** field to `true`.

Related Documents

Table 1   Related Documents

Subject	Description
Account Updater	*Account Updater User Guide* (PDF | HTML)—describes how to automatically incorporate changes made to a customer's payment card data.
Business Center	*Business Center Overview* (PDF | HTML)—describes the features and options available within the Business Center.
Credit Card	*Credit Card Services Using the Simple Order API* (PDF | HTML)—describes how to integrate credit card processing into your order management system.
eCheck	*Electronic Check Services Using the Simple Order API* (PDF | HTML)—describes how to integrate eCheck processing into your order management system.
Payouts	Payouts Using the Simple Order API (PDF | HTML)—describes how to integrate Payouts processing into your order management system.
PINless Debit	*PINless Debit Card Services Using the Simple Order API* (PDF | HTML)—describes how to integrate PINless debit processing using the Simple Order API into your order management system.
Simple Order API	■ *Getting Started with CyberSource Advanced for the Simple Order API* (PDF | HTML)—describes how to get started using the Simple Order API. ■ Simple Order API and SOAP Toolkit API Testing Information page.

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

Introduction

>
> **Important**
>
> Contact CyberSource Customer Support to configure your account for the Token Management Service.

The CyberSource Token Management Service (TMS) tokenizes, securely stores, and manages:

- Payment card PAN
- Payment card expiration date
- Customer data
- Electronic check data

TMS is compatible with the CyberSource Account Updater service for Visa and Mastercard payment cards, except with credentials-on-file (COF) network tokens. All payment information stored with CyberSource can be automatically updated by participating banks, thereby reducing payment failures. For more information, see *Account Updater User Guide* (PDF | HTML).

Token Types and Formats

All token types are also available using the TMS RESTful services. For more information on RESTful services, see CyberSource Payments REST API.

Table 2   Token Types and Formats

Token Type	Description	Format
Customer token For more information, see Chapter 2, "Creating Customer Tokens," on page 18.	***Payment Card Transactions and Payouts*** Represents the tokenized: ■ Payment card PAN ■ Card expiration date ■ Billing information ■ Shipping information ■ Merchant-defined data	■ 32 character hexadecimal (default) ■ 19 digits, Luhn check passing ■ 16 digits, last 4 digits of card preserving, Luhn check passing[1] ■ 16 digits, Luhn check passing[1] ■ 22 digits[2] (Request ID)
	Electronic Checks Represents the tokenized: ■ Bank account and routing numbers ■ Billing information ■ Shipping information ■ Driver license information ■ Account type ■ Company tax ID ■ SEC code ■ Alternate merchant descriptor ■ Merchant-defined data	■ 32 character hexadecimal (default) ■ 19 digits, Luhn check passing ■ 16 digits, Luhn check passing[1] ■ 22 digits[2]

1   Token format for existing merchants who implemented CyberSource services prior to 2019.
2   Can only be used for one token type—customer, payment instrument, or instrument identifier. For instrument identifier tokens, you may use 22 digit format for payment cards and electronic checks.

Table 2 **Token Types and Formats (Continued)**

Token Type	Description	Format
Payment instrument token	This token is available using only TMS RESTful services. For more information on creating this token using TMS RESTful services, see CyberSource Payments REST API.	
	Payment Card Transactions and Payouts Represents the tokenized: ■ Payment card PAN ■ Card expiration date ■ Billing information ■ Merchant-defined data	■ 32 character hexadecimal ■ 19 digits, Luhn check passing ■ 16 digits, Luhn check passing
	Electronic Checks Represents the tokenized: ■ Bank account and routing numbers ■ Billing information ■ Driver license information ■ Account type ■ Company tax ID ■ SEC code ■ Alternate merchant descriptor ■ Merchant-defined data	■ 22 digits[2]
Instrument identifier token	This token helps you identify when the same card or bank account is used, while keeping sensitive customer data secure.	
	Payment Card Transactions and Payouts Represents the tokenized payment card PAN.	■ 32 character hexadecimal ■ 19 digits, Luhn check passing ■ 19 digits, last 4 digits of card preserving (default) ■ 16 digits, Luhn check passing ■ 22 digits[2]
	Electronic Checks Represents the tokenized bank account and routing numbers.	■ 32 character hexadecimal ■ 19 digits, Luhn check passing ■ 16 digits, Luhn check passing ■ 22 digits[2]

1 Token format for existing merchants who implemented CyberSource services prior to 2019.

2 Can only be used for one token type—customer, payment instrument, or instrument identifier. For instrument identifier tokens, you may use 22 digit format for payment cards and electronic checks.

Note

Multiple merchant IDs can be configured for different token types. You receive the instrument identifier token regardless of the token type your account is configured for. Reasons for multiple merchant IDs include:

■   You have multiple processors.

■   Point-of-sale terminals have unique merchant IDs, which are usually configured for the PAN-only instrument identifier token.

When you have multiple merchant IDs, you can set up one token vault to which all of your merchant IDs have access or set up multiple vaults to segregate access to tokens. See "Token Types and Formats," page 11.

Requirements

You must:

■   Have a merchant account with a supported processor.

■   Create a CyberSource account:

https://www.cybersource.com/register/

■   Contact CyberSource Customer Support to enable your account for the Token Management Service and if you want relaxed requirements for address data and expiration date settings enabled. You must confirm the token type and format that you want to use, as described in Table 2, "Token Types and Formats."

■   Install a CyberSource Simple Order API client or the SOAP Toolkit. Use the Simple Order API version 1.135 or later.

Transaction Endpoints

For live transactions, send requests to the production server:

https://ics2wsa.ic3.com/commerce/1.x/transactionProcessor

For test transactions, send requests to the test server:

https://ics2wstesta.ic3.com/commerce/1.x/transactionProcessor

Supported Processors and Payment Methods

The processors listed in Table 3 support all token types, unless noted otherwise.

Table 3   **Supported Processors and Payment Methods**

Processor	Payment Methods
AIBMS	Credit card.
American Express Brighton	Credit card. **Important** Does not support automatic preauthorization reversals.
American Express Direct	Debit card and prepaid card.
Asia-Mideast Processing	Credit card.
Barclays	Credit card—supports 0.00 preauthorizations for Visa and Mastercard.
CCS (CAFIS)	Credit card.
Chase Paymentech Solutions	▪ Credit card—supports 0.00 preauthorizations for Visa and Mastercard. ▪ Debit card and prepaid card—supports partial authorizations for Visa, Mastercard, American Express, Discover, and Diners Club. ▪ Electronic check.
Citibank	Credit card—supports 0.00 preauthorizations for Visa and Mastercard.
Comercio Latino	Credit card—supports 1.00 preauthorizations using Visa, Mastercard, American Express, Discover, Diners Club, JCB, Hipercard, Aura, and Elo.
Credit Mutuel-CIC	▪ Credit card—supports 0.00 preauthorizations using Visa, Mastercard, and Cartes Bancaires. ▪ Debit card and prepaid card.
CyberSource ACH Service	Electronic check.
CyberSource through VisaNet	▪ Credit card—supports 0.00 preauthorizations for Visa and Mastercard. ▪ Credit card—supports 1.00 preauthorizations for American Express, Discover, Diners Club, and JCB. ▪ Debit card and prepaid card. ▪ Payouts.
Elavon Americas	Credit card—supports 0.00 preauthorizations using Visa, Mastercard, American Express, Discover, Diners Club, and China UnionPay.

Table 3   Supported Processors and Payment Methods (Continued)

Processor	Payment Methods
FDC Compass	▪ Credit card—supports 0.00 preauthorizations for Visa and Mastercard. ▪ Debit card and prepaid card. ▪ Payouts.
FDC Nashville Global	▪ Credit card—supports 0.00 preauthorizations for Visa and Mastercard. ▪ Debit card and prepaid card.
FDMS Nashville	▪ Credit card—supports 0.00 preauthorizations for Visa. ▪ Debit card and prepaid card.
FDMS South	▪ Credit card—supports 0.00 preauthorizations for Visa and Mastercard. ▪ Debit card and prepaid card.
Ingenico ePayments	Credit card.
GPN	▪ Credit card—supports 0.00 preauthorizations for Visa and Mastercard. ▪ Debit card and prepaid card. ▪ PINless debit.
HSBC	Credit card—supports 0.00 preauthorizations for Visa and Mastercard. **Important** Does not support automatic preauthorization reversals.
LloydsTSB Cardnet	Credit card.
Moneris	Credit card—supports 0.00 preauthorizations for Visa and Mastercard.
OmniPay Direct	Credit card—supports 0.00 preauthorizations using Visa, Mastercard, Maestro (International), and Maestro (UK Domestic).
OmniPay-Ireland	Credit card—supports 0.00 preauthorizations using Visa and Mastercard.
RBS WorldPay Atlanta	▪ Credit card—supports 0.00 preauthorizations for Visa and Mastercard. ▪ Electronic check.
Streamline	Credit card—supports 0.00 preauthorizations for Visa and Mastercard.
SIX	Credit card.
TeleCheck	Electronic check—supports 1.00 preauthorizations.
TSYS Acquiring Solutions	▪ Credit card—supports 0.00 preauthorizations for Visa and Mastercard cards and 1.00 preauthorizations using American Express, Discover, Diners Club, and JCB. ▪ Debit card and prepaid card.

Table 3 **Supported Processors and Payment Methods (Continued)**

Processor	Payment Methods
Worldpay VAP Worldpay VAP was previously called *Litle*.	■ Credit card—supports 0.00 preauthorizations for American Express, Diners Club, Discover, JCB, Mastercard, and Visa. ■ Debit card and prepaid card.

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.

Merchant-Initiated Transactions

TMS simplifies compliance with mandates for merchant-initiated transactions and credentials-on-file. This helps you to achieve higher authorization success rates. For information about merchant-initiated transactions, see:

FAQ for Merchants Using CyberSource Tokenization or Recurring Billing

Automatically Preauthorizing an Account

CyberSource can automatically verify that a payment card or electronic check account is valid prior to tokenization by authorizing a zero or low value amount, depending on the card type. See "Supported Processors and Payment Methods," page 14. There is no additional charge from CyberSource for this service.

If your account is configured for automatic preauthorizations, CyberSource automatically runs several fraud checks during a preauthorization depending on the payment method for the new customer profile:

■ AVS checks—credit card only

■ CVN checks—credit card only

■ Decision Manager—credit card and electronic checks

If your payment processor supports full authorization reversals you can contact CyberSource Customer Support to automatically reverse preauthorizations. When you create a customer profile with automatic preauthorizations and automatic preauthorization reversals enabled, the order of services is:

1 Credit card authorization service for the preauthorization.

2 Subscription create service—only if the authorization is successful.

3 Full authorization reversal service—only if the authorization is successful and the preauthorization amount is not 0.00.

You can disable the automatic preauthorization for an individual token create or update request using the **paySubscriptionCreateService_disableAutoAuth** field. See Appendix A, "API Fields," on page 29.

Creating Customer Tokens

The customer token represents customer-related information including details for a payment card or electronic check, billing address, shipping address, and merchant-defined data. For a description of all token types, see "Token Types and Formats," page 11.

You can configure your merchant ID to request an automatic account verification (also known as a 0.0 or 1.00 preauthorization) when you create a token. If the verification fails, the token is not created. Contact CyberSource Customer Support to enable this for your merchant ID. See "Authorize and Create a Customer Token for a Payment Card," page 19.

The customer token is returned in the **paySubscriptionCreateReply_subscriptionID** field. The instrument identifier token is also returned in the **paySubscriptionCreateReply_instrumentIdentifierID** field and can be used to analyze customer PAN and electronic check usage across multiple customer tokens.

Creating a Customer Token for a Payment Card

To request a payment card customer token:

Step 1   Set the **paySubscriptionCreateService_run** service field to `true`.

Step 2   Include the following required fields in the request:

- billTo_city
- billTo_country
- billTo_email
- billTo_firstName
- billTo_lastName
- billTo_phoneNumber
- billTo_postalCode
- billTo_state
- billTo_street1

- card_accountNumber
- card_cardType
- card_expirationMonth
- card_expirationYear
- merchantID
- merchantReferenceCode
- purchaseTotals_currency
- recurringSubscriptionInfo_frequency—set to `on-demand`
- shipTo_city
- shipTo_country
- shipTo_firstName
- shipTo_lastName
- shipTo_postalCode
- shipTo_state
- shipTo_street1

For detailed descriptions of request and reply fields, see Appendix A, "API Fields," on page 29. For examples, see Appendix B, "Examples," on page 46.

Authorize and Create a Customer Token for a Payment Card

![!] **Important** You can use this option to verify card details. The token is not created if the authorization fails.

To verify and create a payment card customer token:

Step 1 Set the **paySubscriptionCreateService_run** field to `true`.

Step 2 Include the same fields that are in the request to create a payment card customer token. See "Creating a Customer Token for a Payment Card," page 18.

For detailed descriptions of request and reply fields, see Appendix A, "API Fields," on page 29. For examples, see Appendix B, "Examples," on page 46.

Creating a Customer Token for an Electronic Check

To request an electronic check customer token:

Step 1 Set the **paySubscriptionCreateService_run** service field to `true`.

Step 2 Include the following required fields in the request:

- billTo_city

- billTo_companyTaxID—contact your TeleCheck representative to learn whether this field is required or optional.

- billTo_country

- billTo_driversLicenseNumber—contact your TeleCheck representative to learn whether this field is required or optional.

- billTo_driversLicenseState—contact your TeleCheck representative to learn whether this field is required or optional.

- billTo_email

- billTo_firstName

- billTo_lastName

- billTo_phoneNumber—contact your payment processor representative to learn whether this field is required or optional.

- billTo_postalCode

- billTo_state

- billTo_street1

- check_accountNumber

- check_accountType

- check_bankTransitNumber

- check_checkNumber—contact your payment processor representative to learn whether this field is required or optional.

- check_secCode—required field if your processor is TeleCheck.

- merchantID

- merchantReferenceCode

- purchaseTotals_currency

- recurringSubscriptionInfo_frequency—set to `on-demand`.

- subscription_paymentMethod—set to `check`.

For detailed descriptions of request and reply fields, see Appendix A, "API Fields," on page 29.

Retrieving a Customer Token

You can retrieve the data that is represented by the customer token.

To retrieve a customer token:

Step 1   Set the **paySubscriptionRetrieveService_run** service field to `true`.

Step 2   Include the following required fields in the request:
- merchantID
- merchantReferenceCode
- recurringSubscriptionInfo_subscriptionID

For detailed descriptions of request and reply fields, see Appendix A, "API Fields," on page 29. For examples, see Appendix B, "Examples," on page 46.

Updating a Customer Token

You can update the data that is represented by the customer token.

To update a payment card customer token:

Step 1   Set the **paySubscriptionUpdateService_run** service field to `true`.

Step 2   Include the following required fields in the request:

- merchantID
- merchantReferenceCode
- recurringSubscriptionInfo_subscriptionID

Step 3   Include fields for the data you want to update, such as:

- billTo_city
- billTo_country
- billTo_email
- billTo_firstName
- billTo_lastName
- billTo_phoneNumber
- billTo_postalCode
- billTo_state
- billTo_street1
- card_accountNumber
- card_cardType
- card_expirationMonth
- card_expirationYear
- purchaseTotals_currency
- merchantDefinedData_field#
- merchantSecureData_field#
- recurringSubscriptionInfo_frequency—set to `on-demand`
- shipTo_city
- shipTo_country
- shipTo_firstName
- shipTo_lastName
- shipTo_postalCode
- shipTo_state
- shipTo_street1

For detailed descriptions of request and reply fields, see Appendix A, "API Fields," on page 29. For examples, see Appendix B, "Examples," on page 46.

Deleting a Customer Token

Note	Instrument Identifiers can be associated with more than one payment instrument and/or customer token. You cannot delete an instrument identifier token unless you have deleted all payment instruments and customer tokens associated with it. When you delete an instrument identifier token, then create a new token of any type containing the same PAN or bank account details, the original instrument identifier token will be returned.

To delete a customer token:

Step 1   Set the **paySubscriptionDeleteService_run** service field to `true`.

Step 2   Include the following required fields in the request:

- merchantID
- merchantReferenceCode
- recurringSubscriptionInfo_subscriptionID

For detailed descriptions of request and reply fields, see Appendix A, "API Fields," on page 29. For examples, see Appendix B, "Examples," on page 46.

Requesting an On-Demand Transaction

An on-demand transaction is a real-time transaction using the details represented by a token. The on-demand transactions that you can request are:

- Credit cards—authorization, sale (authorization and capture combined), and credit.
- Electronic checks—debit and credit.
- PINless debits—debit.

To request an on-demand sale transaction:

Step 1   Set the **ccAuthService_run** service field to `true`.

Step 2   Set the **ccCaptureService_run** service field to `true`.

Step 3   Include the following required fields in the request:
- merchantID
- merchantReferenceCode
- purchaseTotals_currency
- purchaseTotals_grandTotalAmount
- recurringSubscriptionInfo_subscriptionID—set to the token value.

For detailed descriptions of request and reply fields, see Appendix A, "API Fields," on page 29. For examples, see Appendix B, "Examples," on page 46.

Creating Credentials-on-File Network Tokens

Card type:

- Visa

Processors:

- American Express Direct
- Barclays
- Comercio Latino
- Chase Paymentech Solutions
- CyberSource through VisaNet
- FDC Compass
- FDC Nashville Global
- GPN
- OmniPay Direct
- Streamline
- SIX
- TSYS Acquiring Solutions

Enabling credentials-on-file (COF) network tokens allows you to improve your authorization success rates.

COF network tokens represent the following tokenized data:

- Payment card PAN
- Payment card expiration date

To help reduce the risk of fraud, you can also include:

- Billing address
- Card verification number

TMS converts the PAN and authentication data that you provide in a token create or update request into a COF network token. See "Creating a Customer Token for a Payment Card," page 18, and "Updating a Customer Token," page 22.

The token is stored in your token vault with the original payment data. You receive the standard reply message described when you create or update a token. See Appendix B, "Examples," on page 46. When you use the customer, payment instrument, or instrument identifier token for an authorization, TMS uses the COF network token. TMS automatically creates a cryptogram (TAVV) for the transaction, if required.

COF network tokens can be used for payments, even when the PAN that was used to create the token expires or is reported lost. This results in fewer authorization declines.

In order to provide an optimal customer experience, you can subscribe to real time notifications that inform you when a PAN is replaced or the expiration dates are extended. See "COF Network Token Notifications," page 27.

Requirements

Contact CyberSource Customer Support to have your account configured to create COF network tokens. Once your account is configured to create tokens from a PAN, TMS will attempt to create a COF network token for each PAN presented in the token create or update request.

Creating a COF Network Token

The procedure for creating a COF network token is the same as "Creating a Customer Token for a Payment Card," page 18.

If successful, the COF network token is stored in your TMS token vault, alongside the PAN. You receive:

- Customer token in the **paySubscriptionCreateReply_subscriptionID** field.

- Instrument identifier token in the **paySubscriptionCreateReply_ instrumentIdentifierID** field that can be used to analyze customer PAN usage across multiple customer tokens.

- Payment account reference in the **paymentAccountReference** field that can be used to analyze customer PAN usage across multiple customer tokens.

If your processor does not support network tokens, or the PAN cannot be enrolled as a COF network token, TMS uses the PAN associated with the token and creates an instrument identifier token. Eligibility is determined by the card type, the issuer, and your acquirer support.

⚠️ **Important**	Network tokens are automatically updated through the card schemes.

Testing

To test your account for support for network tokens, use the test card numbers in Table 4.

Table 4   COF Test Cards

Card Number (Remove spaces when sending to CyberSource.)	CVV	Expiration Date
4622 9431 2701 3705	838	12/22
4622 9431 2701 3713	043	12/22
4622 9431 2701 3721	258	12/22
4622 9431 2701 3739	942	12/22
4622 9431 2701 3747	370	12/22

COF Network Token Notifications

TMS notifies you in real time when updates are made to a card represented by the COF network token in your vault. Contact CyberSource Customer Support with your webhook address for notifications of these updates.

> ⚠️ **Important**   Only an HTTPS URL supporting TLS 1.2 or higher should be used for the merchant POST URL.

Each notification reply message contains all customer, payment instrument, and instrument identifier tokens that are affected by an individual update. More than one customer token can have the same COF network token; therefore, there may be multiple results. Use the retrieve token service to retrieve the updated details. See "Retrieving a Customer Token," page 21.

The notification looks similar to this example:

```
{
  "version": "1.0",
  "id": "3213123123123",
  "type": "tokenizedCardUpdates",
  "_links": {
    "customers": [
      {
        "href": "https://api.cybersource/com/tms/v1/customers/
8040000230021321234"
      },
      {
        "href": "https://api.cybersource/com/tms/v1/customers/
8040000530021326588"
```

```
      }
    ],
    "paymentInstruments": [
      {
        "href": "https://api.cybersource/com/tms/v1/paymentinstruments/
8040002500021325821"
      },
      {
        "href": "https://api.cybersource/com/tms/v1/paymentinstruments/
8040007500021321699"
      }
    ],
    "instrumentidentifiers": [
      {
        "href": "https://api.cybersource/com/tms/v1/instrumentidentifiers/
8040034500021321111"
      }
    ]
  }
}
```

API Fields

Data Type Definitions

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

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

Request Fields

Table 5   Request Fields

Field Name	Description	Used By & Required (R)/ Optional (O)	Data Type & Length
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.	Create (R)[1] Update (O)	String (50)
billTo_companyTaxID	Tax identifier for the customer's company. **Important** Contact your TeleCheck representative to find out whether this field is required or optional.	Create (see description) Update (see description)	String (9)
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.	Create (R)[1] Update (O)	String (2)

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 16. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 5   Request Fields (Continued)

Field Name	Description	Used By & Required (R)/ Optional (O)	Data Type & Length
billTo_dateOfBirth	Customer date of birth. Format: YYYY-MM-DD or YYYYMMDD	Create (O for eCheck payments)	String (10)
billTo_driversLicenseNumber	Customer's driver's license number. **Important** Contact your TeleCheck representative to find out whether this field is required or optional.	Create (see description) Update (see description)	String (30)
billTo_driversLicenseState	State or province in which the customer's driver's license was issued. Use the two-character *State, Province, and Territory Codes for the United States and Canada*. **Important** Contact your TeleCheck representative to find out whether this field is required or optional.	Create (see description) Update (see description)	String (2)
billTo_email	Customer email address. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.	Create (R)[1] Update (O)	String (255)
billTo_firstName	Customer first name. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.	Create (R)[1] Update (O)	String (60)
billTo_lastName	Customer last name. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.	Create (R)[1] Update (O)	String (60)
billTo_phoneNumber	Customer phone number.	Create (O) Update (O)	String (15)

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 16. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 5   Request Fields (Continued)

Field Name	Description	Used By & Required (R)/ Optional (O)	Data Type & Length
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.	Create (R)[1] Update (O)	CyberSource through VisaNet: String (9) All other processors: String (10)
billTo_state	State or province in the billing address. Use the two-character *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.	Create (R)[1] Update (O)	String (2)
billTo_street1	First line of the billing address. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.	Create (R)[1] Update (O)	CyberSource through VisaNet: String (40) Moneris: String (50) Worldpay VAP: String (35) All other processors: String (60)

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 16. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 5   Request Fields (Continued)

Field Name	Description	Used By & Required (R)/ Optional (O)	Data Type & Length
billTo_street2	Second line of the billing address.	Create (O) Update (O)	CyberSource through VisaNet: String (40) Moneris: String (50) Worldpay VAP: String (35) All other processors: String (60)
card_accountNumber	Card account number.	Create (R) Update (O)	String (20)
card_cardType	Type of card. See Appendix C, "Card Types," on page 55 for a list of valid values. To see which cards are supported for each processor, see "Supported Processors and Payment Methods," page 14.	Create (R) Update (O)	String (3)
card_cvNumber	Card verification number.	Create (O) Update (O)	String with numbers only (4)
card_expirationMonth	Expiration month. Format: MM **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting. **Important**	Create (R)[1] Update (O)	String (2)

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 16. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 5   Request Fields (Continued)

Field Name	Description	Used By & Required (R)/ Optional (O)	Data Type & Length
card_expirationYear	Expiration year. 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.	Create (R)[1] Update (O)	FDC Nashville Global and FDMS South: String (See description) All other processors: String (4)
card_issueNumber	Number of times a Maestro (UK Domestic) card has been issued to the account holder. When you include this value in your request, include exactly what is printed on the card. A value of 2 is different than a value of 02. Do not include the field if the card is not a Maestro (UK Domestic) card.	Create (O) Update (O)	String (5)
card_startMonth	Month of the start of the Maestro (UK Domestic) card validity period. Format: MM. Possible values: 01 to 12.	Create (O) Update (O)	String (2)
card_startYear	Year of the start of the Maestro (UK Domestic) card validity period. Format: YYYY. Possible values: 01 to 12.	Create (O) Update (O)	String (4)
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.	Authorization (R)	String (5)
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.	Capture (R)	String (5)

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 16. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 5   Request Fields (Continued)

Field Name	Description	Used By & Required (R)/ Optional (O)	Data Type & Length
check_accountNumber	Checking account number.	Create (R for eCheck payments) Update (O)	String (17)
check_accountType	Checking account type. Possible values: ▪ C: checking ▪ S: savings (USD only) ▪ X: corporate checking (USD only) ▪ G: general ledger	Create (R for eCheck payments) Update (O)	String (1)
check_bankTransitNumber	Bank routing number. This value is also known as the *transit number*.	Create (R for eCheck payments) Update (O)	String (9)
check_checkNumber	Check number. ***Chase Paymentech Solutions*** Optional. ***CyberSource ACH Service*** Not used. ***RBS WorldPay Atlanta*** Optional on debits. Required on credits. ***TeleCheck*** Strongly recommended on debit requests. Optional on credits.	Create (R for eCheck payments) Update (O)	String with numbers only (8)

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 16. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 5   Request Fields (Continued)

Field Name	Description	Used By & Required (R)/ Optional (O)	Data Type & Length
check_secCode	**Important** This field is required if your processor is TeleCheck. Code that specifies the authorization method for the transaction. Possible values: ■ CCD: Corporate cash disbursement—charge or credit to a business checking account. You can use one-time or recurring CCD transactions to transfer funds to or from a corporate entity. ■ PPD: Prearranged payment and deposit entry—charge or credit to a personal checking or savings account. You can originate a PPD entry only when the payment and deposit terms between you and the customer are prearranged. A written authorization from the customer is required for one-time transactions. ■ TEL: Telephone-initiated entry—one-time charge to a personal checking or savings account. You can originate a TEL entry only when there is a business relationship between you and the customer or when the customer initiates a telephone call to you. For a TEL entry, you must obtain a payment authorization from the customer over the telephone. ■ WEB: Internet-initiated entry—charge to a personal checking or savings account. You can originate a one-time or recurring WEB entry when the customer initiates the transaction over the Internet. For a WEB entry, you must obtain payment authorization from the customer over the Internet.	Create (R for eCheck payments) Update (O)	String (3)
invoiceHeader_ merchantDescriptorAlternate	For the description, used-by information, data type, and length, see the information about merchant descriptors in *Credit Card Services Using the Simple Order API* (PDF | HTML).	Optional for all services.	String (13)

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 16. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 5   Request Fields (Continued)

Field Name	Description	Used By & Required (R)/ Optional (O)	Data Type & Length
merchantDefinedData_field1 merchantDefinedData_field2 merchantDefinedData_field3 merchantDefinedData_field4	Four fields that you can use to store information in the customer token. **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, card number, bank account 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.	Create (O) Update (O)	String (255)
merchantID	Your CyberSource merchant ID. Use the same merchant ID for evaluation, testing, and production.	Required for all services.	String (30)
merchantReferenceCode	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 Advanced for the Simple Order API*.	Required for all services.	Asia, Middle East, and Africa Gateway: String (40) Atos: String (32) All other processors: String (50)

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 16. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 5   Request Fields (Continued)

Field Name	Description	Used By & Required (R)/ Optional (O)	Data Type & Length
merchantSecureData_field1 merchantSecureData_field2 merchantSecureData_field3 merchantSecureData_field4	Storage field for any data type in the customer token. The only validation performed on this field is a size check. The data is encrypted before it is stored in the database.	Create (O) Update (O)	String (2071)
paySubscriptionCreateService _disableAutoAuth	Indicates whether to turn off the preauthorization check when creating this token. Use this field if your CyberSource account is configured for automatic preauthorizations but for this specific token you want to override that setting. Possible values: ■ `false`: No, go ahead and perform the preauthorization. ■ `true`: Yes, turn off the preauthorization check.	Create (O) Update (O)	String (5)
paySubscriptionCreateService _run	Whether to include **paySubscriptionCreateService** in your request. Possible values: ■ `true`: Include the service in your request. ■ `false` (default): Do not include the service in your request.	Create (R)	String (5)
paySubscriptionDeleteService_ run	Whether to include **paySubscriptionDeleteService** in your request. Possible values: ■ `true`: Include the service in your request. ■ `false` (default): Do not include the service in your request.	Delete (R)	String (5)
paySubscriptionRetrieve Service_run	Whether to include **paySubscriptionRetrieveService** in your request. Possible values: ■ `true`: Include the service in your request. ■ `false` (default): Do not include the service in your request.	Retrieve (R)	String (5)

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 16. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 5   Request Fields (Continued)

Field Name	Description	Used By & Required (R)/ Optional (O)	Data Type & Length
paySubscriptionUpdateService _run	Whether to include **paySubscriptionUpdateService** in your request. Possible values: ■ `true`: Include the service in your request. ■ `false` (default): Do not include the service in your request.	Update (R)	String (5)
purchaseTotals_currency	Currency used by the customer.	Create (R) Update (O)	String (5)
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.	Authorization (R) Create (R)	String (60)
recurringSubscriptionInfo_ billPayment	Flag that indicates that this is a payment for a bill or for an existing contractual loan. This value is case sensitive. Possible values: ■ `false` (default): Not a bill payment or loan payment. ■ `true`: Bill payment or loan payment.	Create (O)	String (1)
recurringSubscriptionInfo_ frequency	Frequency of payments for the customer profile. Value: `on-demand`	Create (R)	String (20)
recurringSubscriptionInfo_ subscriptionID	Identifier for the token.	Delete (R) Retrieve (R) Update (R)	String (32)
shipTo_city	City of the shipping address.	Create (O) Update (O)	String (50)
shipTo_company	Name of the company receiving the product.	Create (O) Update (O)	String (60)
shipTo_country	Country code for the shipping address. Use the two-character *ISO Standard Country Codes.*	Create (O) Update (O)	String (2)
shipTo_firstName	First name of recipient.	Create (O) Update (O)	String (60)

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 16. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Table 5 Request Fields (Continued)

Field Name	Description	Used By & Required (R)/ Optional (O)	Data Type & Length
shipTo_lastName	Last name of recipient.	Create (O) Update (O)	String (60)
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	Create (O) Update (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*.	Create (O) Update (O)	String (2)
shipTo_street1	First line of the shipping address.	Create (O) Update (O)	String (60)
shipTo_street2	Second line of the shipping address.	Create (O) Update (O)	String (60)
subscription_paymentMethod	Method of payment. Possible values: ▪ credit card ▪ echeck	Create (O)	String (20)

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 16. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

Reply Fields

Table 6   Reply Fields

Field Name	Description	Returned by	Data Type & Length
ccAuthReply_amount	Amount that was authorized.	Authorization	String (15)
ccAuthReply_authorizationCode	Authorization code. Returned only when the processor returns this value.	Authorization	String (7)
ccAuthReply_ authorizationDateTime	Time of authorization.	Authorization	String (20)
ccAuthReply_avsCode	AVS results.	Authorization	String (1)
ccAuthReply_reasonCode	Numeric value corresponding to the result of the authorization request. See "Reason Codes," page 57.	Authorization	Integer (5)
ccAuthReply_reconciliationID	Reference number for the transaction. This value is not returned for all processors. See *Getting Started with CyberSource Advanced for the Simple Order API* (PDF | HTML) for information about order tracking and reconciliation.See *Getting Started with CyberSource Essentials* (PDF | HTML) for information about order tracking and reconciliation.	Authorization	String (60)
decision	Summarizes the overall results for the request. Possible values: ■ ACCEPT ■ ERROR ■ REJECT	All services	String (6)
merchantReferenceCode	Order reference or tracking number that you provided in the request.	All services	String (50)
paymentAccountReference	Reference number serves as a link to the cardholder account and to all transactions for that account. The same value is returned whether the account is represented by a PAN or a network token.	Create (For COF network token only.)	String (32)
paySubscriptionCreateReply_ instrumentIdentifierID	Value for the instrument identifier token assigned to the tokenized PAN.	Create	String (32)

Table 6   Reply Fields (Continued)

Field Name	Description	Returned by	Data Type & Length
paySubscriptionCreateReply_ instrumentIdentifierNew	Indicates whether this is the first time the customer's PAN has been tokenized for you. Possible values: ■ `Y`: This is the first time the PAN has been tokenized and assigned an instrument identifier. ■ `N`: The PAN has previously been tokenized and assigned an instrument identifier. This value is also returned if a token has been deleted and the PAN is used again in a token create request.	Create	String (5)
paySubscriptionCreateReply_ instrumentIdentifierStatus	Current status of the tokenized PAN. Possible values: ■ `Active` ■ `Closed`: Account Updater assigns this status when informed by the card association that the account has closed or there is a new PAN.	Create	String (10)
paySubscriptionCreateReply_ instrumentIdentifierSuccessorID	Value for the new instrument identifier token assigned to the customer's new tokenized PAN. You receive this value in the create token reply when the customer's PAN included in the create token request was previously tokenized and the PAN has been updated by a card association.	Create	String (32)
paySubscriptionCreateReply_ reasonCode	Numeric value corresponding to the result of the service request. See "Reason Codes," page 57.	Create	Integer (5)
paySubscriptionCreateReply_ subscriptionID	Identifier of the token. This value is dependent on the token type for which your MID is configured. See "Token Types and Formats," page 11.	Create	String (32)
paySubscriptionDeleteReply_ instrumentIdentifierID	Value for the deleted instrument identifier token assigned to the tokenized PAN.	Delete	String (32)
paySubscriptionDeleteReply_ reasonCode	Numeric value corresponding to the result of the service request. See "Reason Codes," page 57.	Delete	Integer (5)
paySubscriptionDeleteReply_ subscriptionID	Identifier for the token.	Delete	String (32)

Table 6   Reply Fields (Continued)

Field Name	Description	Returned by	Data Type & Length
paySubscriptionRetrieveReply_ cardAccountNumber	Card account number.	Retrieve	String (20)
paySubscriptionRetrieveReply_ cardExpirationMonth	Two-digit month in which the credit card expires.	Retrieve	String (2)
paySubscriptionRetrieveReply_ cardExpirationYear	Four-digit year in which the credit card expires.	Retrieve	String (4)
paySubscriptionRetrieveReply_ cardIssueNumber	Number of times a Maestro (UK Domestic) card has been issued to the account holder.	Retrieve	String (5)
paySubscriptionRetrieveReply_ cardStartMonth	Month of the start of the Maestro (UK Domestic) card validity period. Format: MM. Possible values: 01 to 12.	Retrieve	String (2)
paySubscriptionRetrieveReply_ cardStartYear	Year of the start of the Maestro (UK Domestic) card validity period. Format: YYYY. Possible values: 01 to 12.	Retrieve	String (4)
paySubscriptionRetrieveReply_ cardType	Type of card. See Appendix C, "Card Types," on page 55 for a list of possible values.	Retrieve	String (3)
paySubscriptionRetrieveReply_ city	City of the customer address.	Retrieve	String (50)
paySubscriptionRetrieveReply_ country	Country code for the billing address. For possible values, see the *ISO Standard Country Codes.*	Retrieve	String (2)
paySubscriptionRetrieveReply_ currency	Currency used by the customer. For possible values, see the *ISO Standard Currency Codes*.	Retrieve	String (5)
paySubscriptionRetrieveReply_ firstName	Customer first name.	Retrieve	String (60)
paySubscriptionRetrieveReply_ frequency	Frequency of payments for the customer profile. Possible value: on-demand	Retrieve	String (20)
paySubscriptionRetrieveReply_ instrumentIdentifierID	Value for the retrieved instrument identifier token assigned to the tokenized PAN.	Retrieve	String (32)

Table 6 Reply Fields (Continued)

Field Name	Description	Returned by	Data Type & Length
paySubscriptionRetrieveReply_ instrumentIdentifierStatus	Current status of the tokenized PAN. Possible values: ■ `Active` ■ `Closed`: Account Updater assigns this status when informed by the card association that the account has closed or there is a new PAN.	Retrieve	String (10)
paySubscriptionRetrieveReply_ instrumentIdentifierSuccessorID	Value for the new instrument identifier token assigned to the customer's new tokenized PAN. You receive this value in the retrieve token reply when the customer's PAN included in the create token request was previously tokenized and the PAN has been updated by a card association.	Retrieve	String (32)
paySubscriptionRetrieveReply_ lastName	Customer last name.	Retrieve	String (60)
paySubscriptionRetrieveReply_ merchantDefinedDataField1 to paySubscriptionRetrieveReply_ merchantDefinedDataField4	Non-PII data that was stored in the customer token.	Retrieve	String (255)
paySubscriptionRetrieveReply_ merchantReferenceCode	Merchant-generated order reference or tracking number.	Retrieve	String (50)
paySubscriptionRetrieveReply_ merchantSecureDataField1 to paySubscriptionRetrieveReply_ merchantSecureDataField4	Data that was encrypted and stored in the customer token.	Retrieve	String (2071)
paySubscriptionRetrieveReply_ paymentMethod	Method of payment. Possible values: ■ `credit card` ■ `echeck`	Retrieve	String (20)
paySubscriptionRetrieveReply_ phoneNumber	Customer phone number.	Retrieve	String (15)
paySubscriptionRetrieveReply_ postalCode	Postal code of the billing address.	Retrieve	String (10)
paySubscriptionRetrieveReply_ reasonCode	Numeric value corresponding to the result of the service request. See "Reason Codes," page 57.	Retrieve	Integer (5)
paySubscriptionRetrieveReply_ shipToCity	City of the shipping address.	Retrieve	String (50)
paySubscriptionRetrieveReply_ shipToCompanyName	Name of the company that is receiving the product.	Retrieve	String (60)

Table 6   Reply Fields (Continued)

Field Name	Description	Returned by	Data Type & Length
paySubscriptionRetrieveReply_ shipToCountry	Country code for the shipping address. For possible values, see the *ISO Standard Country Codes.*	Retrieve	String (2)
paySubscriptionRetrieveReply_ shipToFirstName	First name of recipient.	Retrieve	String (60)
paySubscriptionRetrieveReply_ shipToLastName	Last name of recipient.	Retrieve	String (60)
paySubscriptionRetrieveReply_ shipToPostalCode	Postal code in the shipping address.	Retrieve	String (10)
paySubscriptionRetrieveReply_ shipToState	State or province of shipping address. For possible values, see the *State, Province, and Territory Codes for the United States and Canada*.	Retrieve	String (2)
paySubscriptionRetrieveReply_ shipToStreet1	First line of the shipping address.	Retrieve	String (60)
paySubscriptionRetrieveReply_ shipToStreet2	Second line of the shipping address.	Retrieve	String (60)
paySubscriptionRetrieveReply_ startDate	Start date for an installment or recurring subscription.	Retrieve	String (8)
paySubscriptionRetrieveReply_ state	State or province of billing address. For possible values, see the *State, Province, and Territory Codes for the United States and Canada*.	Retrieve	String (2)
paySubscriptionRetrieveReply_ status	Current status of the tokenized PAN. Possible values: ■ `Active` ■ `Closed`: Account Updater assigns this status when informed by the card association that the account has closed or there is a new PAN.	Retrieve	String (10)
paySubscriptionRetrieveReply_ street1	First line of the billing address.	Retrieve	CyberSource through VisaNet: String (40) Moneris: String (50) Worldpay VAP: String (35) All other processors: String (60)

Table 6   Reply Fields (Continued)

Field Name	Description	Returned by	Data Type & Length
paySubscriptionRetrieveReply_ subscriptionID	Identifier for the customer profile.	Retrieve	String (32)
paySubscriptionUpdateReply_ IdentifierSuccessorID	Value for the updated instrument identifier token assigned to the tokenized PAN. You receive this value in the update token reply when the customer's PAN included in the create token request was previously tokenized and the PAN has been updated by a card association.	Update	String (32)
paySubscriptionUpdateReply_ instrumentIdentifierID	Value for the updated instrument identifier token assigned to the tokenized PAN.	Update	String (32)
paySubscriptionUpdateReply_ instrumentIdentifierNew	Indicates whether this is the first time the customer's PAN has been tokenized for the merchant. Possible values: ■ `Y`: This is the first time the PAN has been tokenized and assigned an instrument identifier. ■ `N`: The PAN has previously been tokenized and assigned an instrument identifier. This value is also returned if a token has been deleted and the PAN is used again in a token create request.	Update	String (5)
paySubscriptionUpdateReply_ instrumentIdentifierStatus	Current status of the tokenized PAN. Possible values: ■ `Active` ■ `Closed`—Account Updater assigns this status when informed by the card association that the account has closed or there is a new PAN.	Update	String (10)
paySubscriptionUpdateReply_ subscriptionID	Identifier for the customer profile.	Update	String (32)
reasonCode	Numeric value corresponding to the result of the entire request. See "Reason Codes," page 57.	All services	Integer (5)
requestID	Identifier for the request.	All 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.	All services	String (256)

Examples

Example 1   Request: Create a Customer Token

```
<requestMessage xmlns="urn:schemas-cybersource-com:transaction-data-1.138">
    <merchantID>mid1234</merchantID>
    <merchantReferenceCode>ref9876</merchantReferenceCode>
    <billTo>
        <firstName>Jane</firstName>
        <lastName>Smith</lastName>
        <street1>123 Main Street</street1>
        <city>Small Town</city>
        <state>CA</state>
        <postalCode>98765</postalCode>
        <country>US</country>
        <phoneNumber>987-654-3210<phoneNumber>
        <email>jsmith@example.com</email>
    </billTo>
    <shipTo>
        <firstName>Jane</firstName>
        <lastName>Smith</lastName>
        <street1>123 Main Street</street1>
        <city>Small Town</city>
        <state>CA</state>
        <postalCode>98765</postalCode>
        <country>US</country>
    </shipTo>
    <purchaseTotals>
        <currency>USD</currency>
    </purchaseTotals>
    <card>
        <accountNumber>411111111111xxxx</accountNumber>
        <expirationMonth>12</expirationMonth>
        <expirationYear>2020</expirationYear>
        <cardType>001</cardType>
    </card>
    <recurringSubscriptionInfo>
        <frequency>on-demand</frequency>
    </recurringSubscriptionInfo>
```

```
    <merchantDefinedData>
        <field1>defined data text 1</field1>
        <field2>defined data text 2</field2>
        <field3>defined data text 3</field3>
        <field4>defined data text 4</field4>
    </merchantDefinedData>
    <merchantSecureData>
        <field1>secure data text 1</field1>
        <field2>secure data text 2</field2>
        <field3>secure data text 3</field3>
        <field4>secure data text 4</field4>
    </merchantSecureData>
    <paySubscriptionCreateService run="true"/>
    </requestMessage>
```

Example 2   Reply: Create a Customer Token

```
<c:replyMessage xmlns:c="urn:schemas-cybersource-com:transaction-data-1.138">
    <c:merchantReferenceCode>ref9876</c:merchantReferenceCode>
    <c:requestID>4992578986976129904008</c:requestID>
    <c:decision>ACCEPT</c:decision>
    <c:reasonCode>100</c:reasonCode>
    <c:paySubscriptionCreateReply>
        <c:reasonCode>100</c:reasonCode>
        <c:subscriptionID>554FDB92B1DAD8F9E0539599D30A3100</c:subscriptionID>
        <c:instrumentIdentifierID>7040000000000181111</c:instrumentIdentifierID>
        <c:instrumentIdentifierStatus>ACTIVE</c:instrumentIdentifierStatus>
        <c:instrumentIdentifierNew>Y</c:instrumentIdentifierNew>
    </c:paySubscriptionCreateReply>
</c:replyMessage>
```

Example 3   Request: Authorize and Create a Customer Token

```xml
<requestMessage xmlns="urn:schemas-cybersource-com:transaction-data-1.138">
    <merchantID>mid1234</merchantID>
    <merchantReferenceCode>ref9876</merchantReferenceCode>
    <billTo>
        <firstName>Jane</firstName>
        <lastName>Smith</lastName>
        <street1>123 Main Street</street1>
        <city>Small Town</city>
        <state>CA</state>
        <postalCode>98765</postalCode>
        <country>US</country>
        <phoneNumber>987-654-3210</phoneNumber>
        <email>jsmith@example.com</email>
    </billTo>
    <shipTo>
        <firstName>Jane</firstName>
        <lastName>Smith</lastName>
        <street1>123 Main Street</street1>
        <city>Small Town</city>
        <state>CA</state>
        <postalCode>98765</postalCode>
        <country>US</country>
    </shipTo>
    <purchaseTotals>
        <currency>USD</currency>
        <grandTotalAmount>10.00</grandTotalAmount>
    </purchaseTotals>
    <merchantDefinedData>
        <field1>defined data text 1</field1>
        <field2>defined data text 2</field2>
        <field3>defined data text 3</field3>
        <field4>defined data text 4</field4>
    </merchantDefinedData>
    <merchantSecureData>
        <field1>secure data text 1</field1>
        <field2>secure data text 2</field2>
        <field3>secure data text 3</field3>
        <field4>secure data text 4</field4>
    </merchantSecureData>
    <card>
        <accountNumber>411111111111xxxx</accountNumber>
        <expirationMonth>12</expirationMonth>
        <expirationYear>2020</expirationYear>
        <cardType>001</cardType>
    </card>
    <recurringSubscriptionInfo>
        <frequency>on-demand</frequency>
    </recurringSubscriptionInfo>
    <paySubscriptionCreateService run="true"/>
    <ccAuthService run="true"/>
    </requestMessage>
```

Example 4   Reply: Authorize and Create a Customer Token

```
<c:replyMessage xmlns:c="urn:schemas-cybersource-com:transaction-data-1.135">
    <c:ccAuthReply>
        <c:amount>10.00</c:amount>
        <c:authorizationCode>888888</c:authorizationCode>
        <c:avsCode>X</c:avsCode>
        <c:reasonCode>100</c:reasonCode>
        <c:reconciliationID>40368790XuwiGOmX</c:reconciliationID>
    </c:ccAuthReply>
    <c:merchantReferenceCode>ref9876</c:merchantReferenceCode>
    <c:requestID>3790672461500176726470</c:requestID>
    <c:decision>ACCEPT</c:decision>
    <c:reasonCode>100</c:reasonCode>
    <c:paySubscriptionCreateReply>
        <c:reasonCode>100</c:reasonCode>
        <c:instrumentIdentifierID>7040000000000181111</c:instrumentIdentifierID>
        <c:instrumentIdentifierStatus>active</c:instrumentIdentifierStatus>
        <c:instrumentIdentifierNew>Y</c:instrumentIdentifierNew>
        <c:subscriptionID>554FDB92B1DAD8F9E0539599D30A3100</c:subscriptionID>
    </c:paySubscriptionCreateReply>
    <c:purchaseTotals>
        <c:currency>USD</c:currency>
    </c:purchaseTotals>
</c:replyMessage>
```

Example 5   Request: Create a COF Network Token

```
<requestMessage xmlns="urn:schemas-cybersource-com:transaction-data-1.138">
    <merchantID>mid1234</merchantID>
    <merchantReferenceCode>ref9876</merchantReferenceCode>
    <billTo>
        <firstName>Jane</firstName>
        <lastName>Smith</lastName>
        <street1>123 Main Street</street1>
        <city>Small Town</city>
        <state>CA</state>
        <postalCode>98765</postalCode>
        <country>US</country>
        <phoneNumber>987-654-3210/phoneNumber>
        <email>jsmith@example.com</email>
    </billTo>
    <shipTo>
        <firstName>Jane</firstName>
        <lastName>Smith</lastName>
        <street1>123 Main Street</street1>
        <city>Small Town</city>
        <state>CA</state>
        <postalCode>98765</postalCode>
        <country>US</country>
    </shipTo>
    <purchaseTotals>
        <currency>USD</currency>
    </purchaseTotals>
    <card>
        <accountNumber>411111111111xxxx</accountNumber>
        <expirationMonth>07</expirationMonth>
        <expirationYear>2020</expirationYear>
        <cvNumber>999<cvNumber>
        <cardType>001</cardType>
    </card>
    <recurringSubscriptionInfo>
        <frequency>on-demand</frequency>
    </recurringSubscriptionInfo>
    <paySubscriptionCreateService run="true"/>
    </requestMessage>
```

Example 6   Reply: Create a COF Network Token

```
<c:replyMessage xmlns:c="urn:schemas-cybersource-com:transaction-data-1.138">
    <c:merchantReferenceCode>ref9876</c:merchantReferenceCode>
    <c:requestID>4992578986976129904008</c:requestID>
    <c:decision>ACCEPT</c:decision>
    <c:reasonCode>100</c:reasonCode>
    <c:paySubscriptionCreateReply>
        <c:reasonCode>100</c:reasonCode>
        <c:subscriptionID>554FDB92B1DAD8F9E0539599D30A3100</c:subscriptionID>
        <c:instrumentIdentifierID>7040000000000181111</c:instrumentIdentifierID>
        <c:instrumentIdentifierStatus>ACTIVE</c:instrumentIdentifierStatus>
        <c:instrumentIdentifierNew>Y</c:instrumentIdentifierNew>
    </c:paySubscriptionCreateReply>
    </c:paymentAccountReference>987654321234567890987654321234567
    </c:paymentAccountReference>
</c:replyMessage>
```

Example 7   Request: Retrieve a Customer Token

```
<requestMessage xmlns="urn:schemas-cybersource-com:transaction-data-1.138">
    <merchantID>mid1234</merchantID>
    <merchantReferenceCode>ref9876</merchantReferenceCode>
    <recurringSubscriptionInfo>
        <subscriptionID>554FDB92B1DAD8F9E0539599D30A3100</subscriptionID>
    </recurringSubscriptionInfo>
    <paySubscriptionRetrieveService run="true"/>
</requestMessage>
```

Example 8   Reply: Retrieve a Customer Token

```
<c:replyMessage xmlns:c="urn:schemas-cybersource-com:transaction-data-1.138">
    <c:merchantReferenceCode>ref9876</c:merchantReferenceCode>
    <c:requestID>4992597963906457904010</c:requestID>
    <c:decision>ACCEPT</c:decision>
    <c:reasonCode>100</c:reasonCode>
    <c:paySubscriptionRetrieveReply>
        <c:reasonCode>100</c:reasonCode>
        <c:cardAccountNumber>411111111111xxxx</c:cardAccountNumber>
        <c:cardExpirationMonth>11</c:cardExpirationMonth>
        <c:cardExpirationYear>2029</c:cardExpirationYear>
        <c:cardIssueNumber>1</c:cardIssueNumber>
        <c:cardStartMonth>02<c:cardStartMonth>
        <c:cardStartYear>2016<c:cardStartYear>
        <c:cardType>005</c:cardType>
        <c:city>Small Town</c:city>
        <c:country>US</c:country>
        <c:currency>USD</c:currency>
        <c:email>jsmith@example.com</c:email>
        <c:firstName>Jane</c:firstName>
        <c:frequency>on-demand</c:frequency>
        <c:lastName>Smith</c:lastName>
        <c:paymentMethod>credit card</c:paymentMethod>
        <c:postalCode>98765</c:postalCode>
        <c:state>CA</c:state>
        <c:status>CURRENT</c:status>
        <c:street1>123 Main Street</c:street1>
        <c:subscriptionID>554FDB92B1DAD8F9E0539599D30A3100</c:subscriptionID>
        <c:instrumentIdentifierID>7040000000000181111</c:instrumentIdentifierID>
        <c:instrumentIdentifierStatus>ACTIVE</c:instrumentIdentifierStatus>
        <c:shipToCity>Small Town</c:shipToCity>
        <c:shipToCountry>US</c:shipToCountry>
        <c:shipToFirstName>Jane</c:shipToFirstName>
        <c:shipToLastName>Smith</c:shipTolastName>
        <c:shipToPostalCode>98765</c:shipToPostalCode>
        <c:shipToState>CA</c:shipToState>
        <c:shipToStreet1>123 Main Street</c:shipToStreet1>
        <c:merchantDefinedDataField1>defined data text 1</c:merchantDefinedDataField1>
        <c:merchantDefinedDataField2>defined data text 2</c:merchantDefinedDataField2>
        <c:merchantDefinedDataField3>defined data text 3</c:merchantDefinedDataField3>
        <c:merchantDefinedDataField4>defined data text 4</c:merchantDefinedDataField4>
        <c:merchantSecureDataField1>secure data text 1</c:merchantSecureDataField1>
        <c:merchantSecureDataField2>secure data text 2</c:merchantSecureDataField2>
        <c:merchantSecureDataField3>secure data text 3</c:merchantSecureDataField3>
        <c:merchantSecureDataField4>secure data text 4</c:merchantSecureDataField4>
    </c:paySubscriptionRetrieveReply>
    </c:replyMessage>
```

Example 9   Request: Update Merchant Defined Data for a Customer Token

```xml
<requestMessage xmlns="urn:schemas-cybersource-com:transaction-data-1.138">
    <merchantID>mid123</merchantID>
    <merchantReferenceCode>ref9876</merchantReferenceCode>
    <billTo>
        <firstName>Jane</firstName>
        <lastName>Smith</lastName>
        <street1>123 Main Street</street1>
        <city>Small Town</city>
        <state>CA</state>
        <postalCode>98765</postalCode>
        <country>US</country>
        <phoneNumber>987-654-3210</phoneNumber>
        <email>jsmith@example.com</email>
    </billTo>
    <shipTo>
        <firstName>Jane</firstName>
        <lastName>Smith</lastName>
        <street1>123 Main Street</street1>
        <city>Small Town</city>
        <state>CA</state>
        <postalCode>98765</postalCode>
        <country>US</country>
    </shipTo>
    <purchaseTotals>
        <currency>USD</currency>
    </purchaseTotals>
    <merchantDefinedData>
        <field1>updated defined data text 1</field1>
        <field2>updated defined data text 2</field2>
        <field3>updated defined data text 3</field3>
        <field4>updated defined data text 4</field4>
    </merchantDefinedData>
    <merchantSecureData>
        <field1>updated secure data text 1</field1>
        <field2>updated secure data text 2</field2>
        <field3>updated secure data text 3</field3>
        <field4>updated secure data text 4</field4>
    </merchantSecureData>
    <card>
        <accountNumber>411111111111xxxx</accountNumber>
        <expirationMonth>12</expirationMonth>
        <expirationYear>2020</expirationYear>
        <cardType>001</cardType>
    </card>
    <recurringSubscriptionInfo>
        <subscriptionID>554FDB92B1DAD8F9E0539599D30A3100</subscriptionID>
    </recurringSubscriptionInfo>
    <paySubscriptionUpdateService run="true"/>
    </requestMessage>
```

Example 10   Reply: Update Merchant Defined Data for a Customer Token

```
<c:replyMessage xmlns:c="urn:schemas-cybersource-com:transaction-data-1.138">
    <c:merchantReferenceCode>ref9876</c:merchantReferenceCode>
    <c:requestID>4992604216066941804008</c:requestID>
    <c:decision>ACCEPT</c:decision>
    <c:reasonCode>100</c:reasonCode>
    <c:paySubscriptionUpdateReply>
        <c:instrumentIdentifierStatus>active</c:instrumentIdentifierStatus>
        <c:instrumentIdentifierID>7040000000000181112</c:instrumentIdentifierID>
        <c:instrumentIdentifierNew>Y</c:instrumentIdentifierID>
        <c:subscriptionID>554FDB92B1DAD8F9E0539599D30A3100</c:subscriptionID>
    </c:paySubscriptionUpdateReply>
</c:replyMessage>
```

Example 11   Request: Delete a Customer Token

```
<requestMessage xmlns="urn:schemas-cybersource-com:transaction-data-1.138">
    <merchantID>mid1234</merchantID>
    <merchantReferenceCode>ref9876</merchantReferenceCode>
    <recurringSubscriptionInfo>
        <subscriptionID>554FDB92B1DAD8F9E0539599D30A3100</subscriptionID>
    </recurringSubscriptionInfo>
    <paySubscriptionDeleteService run="true"/>
</requestMessage>
```

Example 12   Reply: Delete a Customer Token

```
<c:replyMessage xmlns:c="urn:schemas-cybersource-com:transaction-data-1.135">
    <c:paySubscriptionDeleteReply>
        <c:reasonCode>100</c:reasonCode>
        <c:subscriptionID>554FDB92B1DAD8F9E0539599D30A3100</c:subscriptionID>
        <c:instrumentIdentifierID>7040000000000181112</c:instrumentIdentifierID>
    </c:paySubscriptionDeleteReply>
    <c:requestID>3790672461500176056470</c:requestID>
    <c:decision>ACCEPT</c:decision>
    <c:reasonCode>100</c:reasonCode>
    <c:merchantReferenceCode>ref9876</c:merchantReferenceCode>
</c:replyMessage>
```

Card Types

The following table lists the card type values to use in **paySubscriptionCreateService** and **paySubscriptionUpdateService** requests. To see which cards can be handled by each processor, see "Supported Processors and Payment Methods," page 14.

Table 7   Card Types for Creating and Updating Tokens

Value	Card Type
001	Visa For all processors except Ingenico ePayments and SIX, the Visa Electron card type is processed the same way that the Visa debit card is processed. Use card type value 001 for Visa Electron. **Note** Ingenico ePayments was previously called *Global Collect*.
002	Mastercard, Eurocard: European regional brand of Mastercard.
003	American Express
004	Discover
005	Diners Club
006	Carte Blanche
007	JCB
014	EnRoute
021	JAL
024	Maestro (UK Domestic)
027	NICOS house card
031	Delta: use this value only for Ingenico ePayments. For other processors, use 001 for all Visa card types. **Note** Ingenico ePayments was previously called *Global Collect*.
033	Visa Electron: use this value only for Ingenico ePayments and SIX. For other processors, use 001 for all Visa card types. **Note** Ingenico ePayments was previously called *Global Collect*.
034	Dankort
036	Cartes Bancaires
037	Carta Si

Table 7   Card Types for Creating and Updating Tokens (Continued)

Value	Card Type
039	Encoded account number
040	UATP
042	Maestro (International)
050	Hipercard: supported only by Comercio Latino.
051	Aura: supported only by Comercio Latino.
053	ORICO house card
054	Elo: supported only by Comercio Latino.
062	China UnionPay

Reason Codes

Table 8 describes the reason codes returned by the Simple Order API for TMS. For a description of replies, decisions, and reason codes, see the information about handling replies in *Getting Started with CyberSource Advanced for the Simple Order API*.

!
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 8 **Reason Codes**

Reason Code	Description
100	Transaction was successful.
101	Required field is null: <*field name*> Reason: Missing value in the required API field.
101	The request data did not pass the required fields check for this application: <*field name*> Reason: Invalid field included in the service request.
102	The request data did not pass the required fields check for this application: <*field name*> Reason: Invalid field included in the service request.
150	A system error has been encountered: Requested service is forbidden. Please contact customer support. Reason: The Token Management Service (TMS) profile is not enabled.

Table 8   Reason Codes (Continued)

Reason Code	Description
150	A system error has been encountered. This field is invalid or missing. Please contact Customer Support. Possible reasons: ■ You are requesting a service using a draft TMS profile. ■ The profile is non-transactable. ■ Invalid Profile ID. ■ Profile does not exist. ■ Vault does not exist.
150	Error occurred during communication with token service. Please contact customer support. Reason: The TMS system is not responding.
231	The credit card number is either missing or invalid.