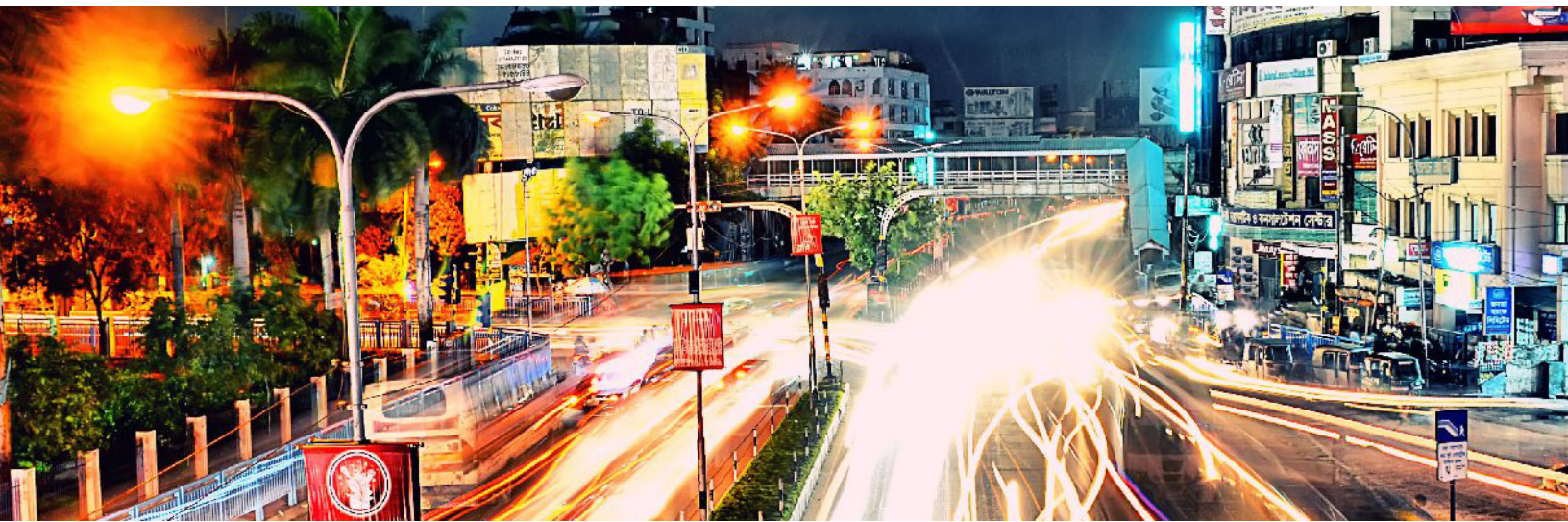


# Google Pay

## Using the SCMP API



**CyberSource<sup>®</sup>**  
A Visa Solution

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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](mailto:sales@cybersource.com) or call 650-432-7350 or 888-330-2300 (toll free in the United States).

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**Revision:** May 2020

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# Recent Revisions to This Document

Release	Changes
May 2020	Updated information about recurring payments. See <a href="#">"Supported Processors, Card Types, and Optional Features," page 9</a> .
April 2020	Added information about optional features. See <a href="#">"Supported Processors, Card Types, and Optional Features," page 9</a> .
February 2020	Added support for the processor <i>Moneris</i> . See <a href="#">Moneris, page 10</a> .
January 2020	Updated the <b>grand_total_amount</b> request field. See <a href="#">grand_total_amount, page 21</a> .
November 2019	<p>Changed <i>payment network tokenization to authorizations with payment network tokens</i> throughout this document.</p> <p>Updated information about payment network tokens. See <a href="#">"Payment Network Tokens," page 8</a>.</p> <p>SIX: added an Important statement. See <a href="#">SIX, page 10</a>.</p>
September 2019	<p>Added information about configuring Google Pay. See <a href="#">"Configuring Google Pay," page 14</a>.</p> <p>Updated the authorization reply example. See <a href="#">Example 7, "Authorization Reply," on page 17</a>.</p> <p>Updated the <b>payment_network_token_transaction_type</b> request field. See <a href="#">payment_network_token_transaction_type, page 22</a>.</p> <p>Updated the following reply fields. See <a href="#">"Reply Fields," page 24</a>.</p> <ul style="list-style-type: none"> <li>■ token_expiration_month</li> <li>■ token_expiration_year</li> <li>■ token_prefix</li> <li>■ token_suffix</li> </ul>

# About This Guide

## Audience and Purpose

---

This document is written for merchants who want to enable customers to use Google Pay to pay for in-app purchases. This document provides an overview of integrating the Google API and describes how to request the CyberSource API to process an authorization.

This document describes the Google Pay service and the CyberSource API. You must request the Google API to receive the customer's encrypted payment data before requesting the CyberSource API to process the transaction.

## Conventions

---

### Important Statements

---



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

---

### Text and Command Conventions

---

Convention	Usage
<b>Bold</b>	<ul style="list-style-type: none"><li>Field and service names in text; for example: Include the <b>ics_applications</b> field.</li><li>Items that you are instructed to act upon; for example: Click <b>Save</b>.</li></ul>

---

---

Convention	Usage
Screen text	<ul style="list-style-type: none"><li>■ XML elements.</li><li>■ Code examples and samples.</li><li>■ Text that you enter in an API environment; for example: Set the <b>davService_run</b> field to <code>true</code>.</li></ul>

---

## Related Documents

---

CyberSource Documents:

- *Getting Started with CyberSource Advanced for the SCMP API* ([PDF](#) | [HTML](#))
- [SCMP API Documentation and Downloads page](#)
- *Credit Card Services Using the SCMP API* ([PDF](#) | [HTML](#))
- *Authorizations with Payment Network Tokens Using the SCMP API* ([PDF](#) | [HTML](#))

Google Pay documents:

- Google Pay API: <https://developers.google.com/pay/api/>

Refer to the Support Center for complete CyberSource technical documentation:

[http://www.cybersource.com/support\\_center/support\\_documentation](http://www.cybersource.com/support_center/support_documentation)

## Customer Support

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

<http://www.cybersource.com/support>

# Introduction

## Google Pay Overview

---

Google Pay is a simple, secure in-app mobile and Web payment solution. You can choose CyberSource to process Google Pay transactions through all e-commerce channels.

You can simplify your payment processing by allowing CyberSource to decrypt the payment data for you during processing.

This method integrates simply and allows you to process transactions without seeing the payment network token and transaction data.

---

- 1 Using the Google API, request the customer's encrypted payment data.
  - 2 Using the CyberSource API, construct and submit the authorization request and include the encrypted payment data from the Google Pay call back.
  - 3 CyberSource decrypts the encrypted payment data to create the payment network token and processes the authorization request.
- 

For complete details, see ["How Google Pay Works," page 11](#).

## Payment Network Tokens

---

Authorizations with payment network tokens enable you to securely request a payment transaction with a payment network token instead of a customer's primary account number (PAN).

The payment network token is included in the customer's encrypted payment data, which is returned by the payment processor.

For information about authorizations with payment network tokens, see *Authorizations with Payment Network Tokens Using the SCMP API* ([PDF](#) | [HTML](#)).



# Requirements

- Create a CyberSource merchant evaluation account if you do not have one already: <https://www.cybersource.com/register/>
- Have a merchant account with a supported processor (see "[Supported Processors, Card Types, and Optional Features](#)," page 9).
- Install the CyberSource [SCMP API client](#).
- [Create a Google developer account](#) and embed Google Pay into your application or web sites.
- For details about integrating Google Pay, see the Google Pay [API documentation](#).

# Supported Processors, Card Types, and Optional Features

Merchant-initiated transactions and multiple partial captures are described in *Authorizations with Payment Network Tokens Using the SCMP API* ([PDF](#) | [HTML](#)).  
Recurring payments and split shipments are described in *Credit Card Services Using the SCMP API* ([PDF](#) | [HTML](#)).

**Table 1 Supported Processors, Card Types, and Optional Features**

Processors	Card Types	Optional Feature
American Express Direct	American Express	Recurring Payments
Barclays	Visa, Mastercard	<ul style="list-style-type: none"> <li>■ Recurring Payments</li> <li>■ Multiple partial captures</li> </ul>
Chase Paymentech Solutions	Visa, Mastercard, American Express, Discover	Recurring Payments
Credit Mutuel-CIC	Visa, Mastercard, Cartes Bancaires	Recurring Payments
CyberSource through VisaNet. The supported acquirers are: <ul style="list-style-type: none"> <li>■ Australia and New Zealand Banking Group Limited (ANZ)</li> <li>■ Vantiv</li> <li>■ Westpac</li> </ul>	Visa, Mastercard	Recurring payments
Elavon Americas	Visa, Mastercard, American Express, JCB, Discover	<ul style="list-style-type: none"> <li>■ Merchant-Initiated transactions</li> <li>■ Multiple partial captures</li> <li>■ Recurring payments</li> </ul>

**Table 1 Supported Processors, Card Types, and Optional Features (Continued)**

<b>Processors</b>	<b>Card Types</b>	<b>Optional Feature</b>
FDC Compass	Visa, Mastercard, American Express	Recurring payments
FDC Nashville Global	Visa, Mastercard, American Express, Discover	<ul style="list-style-type: none"> <li>■ Recurring payments</li> <li>■ Multiple partial captures</li> </ul>
JCN Gateway	JCB	Multiple partial captures
GPN	Visa, Mastercard, American Express	Split shipments
Moneris	Visa, Mastercard, American Express	<ul style="list-style-type: none"> <li>■ Merchant-Initiated transactions</li> <li>■ Recurring payments</li> </ul>
OmniPay Direct. The supported acquirers are: <ul style="list-style-type: none"> <li>■ Bank of America Merchant Services</li> <li>■ First Data Europe through OmniPay Direct</li> <li>■ Global Payments International Acquiring through OmniPay Direct</li> </ul>	Visa, Mastercard	Recurring payments
SIX	Visa, Mastercard	Recurring payments
<b>Important</b> SIX is supported only for card-present processing.		
Streamline	Visa, Mastercard	Recurring payments
TSYS Acquiring Solutions	Visa, Mastercard, American Express	Multiple partial captures
Worldpay VAP Worldpay VAP was previously called Litle. Litle was purchased by Vantiv, which was then purchased by Worldpay VAP. If you have any questions about this situation, contact your account manager at Worldpay VAP.	Visa, Mastercard	Recurring payments

# How Google Pay Works



- 1 The customer chooses the *Google Pay* button. Using the Google API, your system initiates the Google Pay request identifying CyberSource as your payment gateway, passing your CyberSource merchant ID as the gateway merchant ID.
- 2 The customer confirms the payment. The Google API contacts Google Pay services to retrieve the consumer's payment parameters.
- 3 If the customer's selected payment credentials are tokenized or you are tokenizing new payment credentials, the Google Pay service contacts the appropriate payment network to retrieve the appropriate cryptogram.
- 4 The payment network returns the appropriate token and cryptogram to the Google Pay service.
- 5 Google creates encrypted payment data using the gateway-specific key that is supplied in the Wallet request and includes it in the Google API response.
- 6 The Google Pay call back returns the encrypted payment data.
- 7 Your system prepares the Google Pay response information for submission to the CyberSource service.
  - a CyberSource sends the authorization request to the acquirer.
  - b The acquirer processes the request from CyberSource and creates the payment network authorization request.

- c The payment network processes the request from the acquirer and creates the issuer authorization request.
  - d The issuer processes the request from the payment network. The issuer looks up the payment information and returns an approved or declined authorization message to the payment network.
  - e The payment network returns the authorization response to the acquirer.
  - f The acquirer returns the authorization response to CyberSource.
- 8 CyberSource returns the authorization response to your system.
  - 9 Your system returns the authorization response to the payment application.
  - 10 The payment application displays the confirmation or decline message to the customer.
    - a The acquirer submits the settlement request to the issuer for funds.
    - b The issuer supplies the funds to the acquirer for the authorized transactions.

## Additional CyberSource Services

Refer to [Credit Card Services Using the SCMP API](#) for information on how to request these follow-on services.

**Table 2 CyberSource Services**

CyberSource Service	Description
Capture	A follow-on service that uses the request ID returned from the previous authorization. The request ID links the capture to the authorization. This service transfers funds from the customer's account to your bank and usually takes two to four days to complete.
Sale	A sale is a bundled authorization and capture. Request the authorization and capture services at the same time. CyberSource processes the capture immediately.
Authorization Reversal	A follow-on service that uses the request ID returned from the previous authorization. An authorization reversal releases the hold that the authorization placed on the customer's credit card funds. Use this service to reverse an unnecessary or undesired authorization.

# Transaction Endpoints

---

CAS (test transactions): <http://ics2testa.ic3.com>

Production (live transactions): <http://ics2a.ic3.com>

# Formatting Encrypted Payment Data

## Configuring Google Pay

---

You must provide your CyberSource merchant ID to Google in order to ensure proper encryption of the Google Pay payload and authenticity of the request.

For a Google Pay tutorial, see:

<https://developers.google.com/pay/api/android/guides/tutorial>

Set the gateway and gateway merchant ID to the appropriate indicators. The following code examples show how to configure the `PaymentMethodTokenizationParameters` object using CyberSource as the gateway.

### Example 1    Java Code

---

```
.setPaymentMethodTokenizationType(WalletConstants.PAYMENT_METHOD_
TOKENIZATION_TYPE_PAYMENT_GATEWAY)
.addParameter("gateway", "cybersource")
.addParameter("gatewayMerchantId", "[yourCyberSourceMID]")
```

---

### Example 2    Java Script

---

```
tokenizationType: 'PAYMENT_GATEWAY',
  parameters: {
    gateway: 'cybersource',
    gatewayMerchantId: '[yourCyberSourceMID]'
  }
```

---

## Formatting the Payment Blob

To transmit Google Pay responses to CyberSource securely, you must first encode them using Base64. [Example 3](#) shows a Google Pay response.

### Example 3 Google Pay Response

```
{ "signature": "MEUCIQDhTxxHqwy8pXB9hpYxaSK5jFgsqpG2E1rX77QXssK8tAIgUBvYYAI/bnBS8T/
Tfxnm2AF981Mv5y0pHyGexM5dMjk\u003d", "protocolVersion": "ECv1", "signedMessage": {"\encr
yptedMessage": "\odyUGGA7B+b1letYcJbS43AQUFQJpWEFCN4UuUExQ5LX0\
XcLwKElXcB95nMnmPO9lM2KGp13FYsL768ccCzAjBGLYF+fugcJTCvkrUhcNSyXr7hwhf12BEsrweqJM6I7Vs5
lfrPAukRJeLDQG4FxmTLW49QyP8vIZC+tz2c+Z3zozzI5oB9jE8fA2dolFa13Cu6gXqdKH\
IHRh7UniLUuTy+0G5FQV2pwST2uBSNNkZhb8WYJDHxbBjz0UebVP+ObmT5cc8AKU5dgHRdfr4GKpEZ4EBzB90
BPxLqYHpopriJ61bFgFVsQQ6\
8HBqQ7ImIMH5y7G8p8qAFkwnB78ZcL0Fh5BjXojkxGoFp2gjAsrhhttHAFbe3WQBUPkwJu09\6\
MyJpCSrpMHFouF\
dj0SYjq+xI097lCHZec7jQrAhISLWZ9DZkuMvGKWPpu0CKn2XqTXQ=\", \"ephemeralPublicKey\": \"MFk
wEwYHKoZiZjOCAQYIKoZiZj0DAQcDQgAEnn4yjj0N6x1X08\8j7\
4jvmLJCYAqgXLwP1FhjuTgIM9oCtPijZfI9so2QEOs2ZnVp3D0d13JYIDVe+396KkAQ==\", \"tag\": \"DRp
cc+YQ33RNgSTcxztnJbMJnirbU5DW3dStjfhFiwc=\"} }
```

[Example 4](#) shows how to transform the Google Pay payment information into the Base64-encoded blob.

### Example 4 Android Code

```
new String(Base64.encode(paymentData.getPaymentMethodToken().getToken().getBytes()))
```

To construct the following blob, encode [Example 3](#) using Base64 and include it in the CyberSource payment request. [Example 5](#) shows a formatted Google Pay blob.

### Example 5 Google Pay Blob

```
eyJzaWduYXRlcmluOiJNRVVSFVFEaFR4aEhxd1k4cFhCOWhwWXhhU0s1akZnc3FwRzJFMXJYNzdRWNhZSzhOQ
UlnVUJ2WVlBSS9ibkJTOFQvVGZ4bm0yQUY5ODFNdjV5MHBIEUdleE01ZE1Ka1x1MDAzZCIsInByb3RvY29sVm
Vyc2lvbiI6IkVkdjEiLCJzaWduZW50dWVudlIjoie1wiZW5jcnlwdGVkTWVzc2FnZVwiOlwib2R5VUdHQtd
CK2JsbGV0WVNKY1M0M0FRVUZRSnBXRUZDTjRvdVVFfE1TFgwcXCY0x3S0VsWGNCOtVUtw5tUE85bE0yS0dw
MTNGWXMNzY4Y2NDekFqQkdMWUyRnVnY0pUY3Zrc1VoY05TeVhyN2h3ZjEYQkVzcndlcUpNNkk3VnM1bGZyU
EF1a1JKZUxEUUC0RnhtVExXND1ReVA4dklaQyt0ejJjK1ozem96ekk1b0I5akU4ZkEYzG9sRmExM0N1NmdYcW
RLSFvWvSuhSaDdVbmlMVXVUeSswRzVGVUyycHdTVDJlQ1NOTmtaaGI4V1lKREhieEJqejBVZJWJUCtPYm1UNWN
jOEF1VTVkZ0hSZGZyNEDLcEVaNEVCekI5MEJQeExxWUhwB3ByaUo2bGJGZ0ZWc1FRN1wvOEhCcVe3SW1JTUg1
eTdHOHA4cUFGa1duQjc4WmNMMEZ0NUJqW9qa3hHb0ZwMmdqQXNyaGh0dEhBRmJlM1dRQnVQa3dKdTA5XC82X
C9NeUpwQ1NycE1IRm91R1wvZGowU1lqUSt4STA5N2xDSFp1YzdzdXUJBAElTTFdaOURaa3VNdkdLUfdwdTBDS2
4yWHFUWFE9XCIsXcJlclGh1bWVYyWxQdWJsaWNLZlxlclIjpcIk1Ga3dFd1lIS29aSXpqMENBUV1JS29aSXpqMER
BUWNEUwdBRW5uNHlqeTBONhnsWE84XC84ajdcLzRqdm1MSkNZQXFnWEX3UDFGaGp1VGdJTTlvQ3RQaWpaZkk5
c28yUUVPCzJablZwM0QwZGwzS1lJRFZlKzM5NktrQVE9PVwiLFwidGFnXCI6XCJEUUnBjYytZUTMzUk5nc1Rje
Hp0bkpiTUuaXJiVTVEVzNkU3RqZmhGaXdjPVwifSJ9
```

# Authorizing a Payment

## CyberSource Decryption

---

### Transaction Authorization

See ["Request Fields," page 19](#), and ["Reply Fields," page 24](#), for detailed field descriptions.

#### To request an authorization for a Google Pay transaction:

---

- Step 1** Set the `encrypted_payment_data` field to the string value generated from the Full Wallet response.
- Step 2** Set the `payment_solution` field to 012.

#### Example 6 Authorization Request

---

```
bill_address1=111 S. Division St.  
bill_address2=Suite 123  
bill_city=Ann Arbor  
bill_country=US  
bill_state=MI  
bill_zip=48104-2201  
encrypted_payment_data=ABCDEFabcdefABCDEFabcdef0987654321234567  
card_type=001  
currency=usd  
customer_email=demo@example.com  
customer_firstname=James  
customer_ipaddress=66.123.123.2  
customer_lastname=Smith  
customer_phone=999-999-9999  
grand_total_amount=100.00  
ics_applications=ics_auth  
merchant_id=demomerchant  
merchant_ref_number=demorefnum  
solution_type=012
```

---



**Example 7 Authorization Reply**

---

```
currency=usd
request_id=4465837560045000001541
auth_rflag=SOK
ics_rmsg=Request was processed successfully.
auth_auth_amount=100.00
auth_rcode=1
auth_trans_ref_no=13209254CGJSMQCQ
auth_auth_code=888888
auth_rmsg=Request was processed successfully.
ics_rflag=SOK
auth_auth_response=100
auth_avs_raw=I1
auth_auth_time=2015-11-03T204917Z
merchant_ref_number=demorefnum
ics_rcode=1
```

---

# API Fields

## Data Type Definitions

---

Data Type	Description
Date and time	Format is YYYY-MM-DDThhmmssZ, where: <ul style="list-style-type: none"><li>■ T separates the date and the time.</li><li>■ Z indicates Coordinated Universal Time (UTC), which equals Greenwich Mean Time (GMT).</li></ul> Example: 2019-08-11T22:47:57Z equals August 11, 2019, at 22:47:57 (10:47:57 p.m.)
Decimal	Number that includes a decimal point Examples: 23.45, -0.1, 4.0, 90809.0468
Integer	Whole number {..., -3, -2, -1, 0, 1, 2, 3, ...}
Nonnegative integer	Whole number greater than or equal to zero {0, 1, 2, 3, ...}
Positive integer	Whole number greater than zero {1, 2, 3, ...}
String	Sequence of letters, numbers, spaces, and special characters

## 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](#).

# Request Fields

Unless otherwise noted, all fields are order and case insensitive, and the fields accept special characters such as @, #, and %.

**Table 3 Request Fields**

Field	Description	Used By: Required (R) or Optional (O)	Data Type (Length)
bill_address1	First line of the billing street address.	ics_auth (R) <sup>2</sup>	String (60)
bill_address2	Additional address information. <b>Example</b> Attention: Accounts Payable	ics_auth (O)	String (60)
bill_city	City of the billing address.	ics_auth (R) <sup>2</sup>	String (50)
bill_country	Country of the billing address. Use the two-character <a href="#">ISO Standard Country Codes</a> .	ics_auth (R) <sup>2</sup>	String (2)
bill_state	State or province of the billing address. For an address in the U.S. or Canada, use the <a href="#">State, Province, and Territory Codes for the United States and Canada</a> .	ics_auth (R) <sup>2</sup>	String (2)
bill_zip	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] <b>Example</b> 12345-6789  When the billing country is Canada, the 6-digit postal code must follow this format: [alpha][numeric][alpha][space] [numeric][alpha][numeric] <b>Example</b> A1B 2C3	ics_auth (R) <sup>2</sup>	String (9)
card_type	Type of card to authorize. Possible values: <ul style="list-style-type: none"> <li>■ 001: Visa</li> <li>■ 002: Mastercard</li> <li>■ 003: American Express</li> <li>■ 004: Discover</li> </ul>	ics_auth (O)	String (3)
currency	Currency used for the order: USD	ics_auth (R)	String (5)

<sup>1</sup> The TC 33 Capture file contains information about the purchases and refunds that a merchant submits to CyberSource.

CyberSource through VisaNet creates the TC 33 Capture file at the end of the day and sends it to the merchant's acquirer, who uses this information to facilitate end-of-day clearing processing with payment card companies.

<sup>2</sup> 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 18. **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

**Table 3 Request Fields (Continued)**

Field	Description	Used By: Required (R) or Optional (O)	Data Type (Length)
customer_cc_cv_number	CVN.	ics_auth (O)	Nonnegative integer (4)
customer_cc_expmo	Two-digit month in which the payment network token expires. Format: MM. Possible values: 01 through 12.	ics_auth (R)	String (2)
customer_cc_expyr	Four-digit year in which the payment network token expires. Format: YYYY.	ics_auth (R)	Nonnegative integer (4)
customer_cc_number	The payment network token value.  This value is obtained by decrypting the customer's encrypted payment data. Populate this field with the decrypted DPAN value.	ics_auth (R)	Nonnegative integer (20)
customer_email	Customer's email address.	ics_auth (R) <sup>2</sup>	String (255)
customer_firstname	Customer's first name. For a credit card transaction, this name must match the name on the card.	ics_auth (R) <sup>2</sup>	String (60)
customer_ipaddress	Customer's IP address.	ics_auth (O)	String (15)
customer_lastname	Customer's last name. For a credit card transaction, this name must match the name on the card.	ics_auth (R) <sup>2</sup>	String (60)
customer_phone	Customer's phone number. CyberSource recommends that you include the country code when the order is from outside the U.S.	ics_auth (O)	String (15)
directory_server_transaction_id	Identifier generated during the authentication transaction by the Mastercard Directory Server and passed back with the authentication results.	ics_auth (O)	String (36)
eci_raw	Raw electronic commerce indicator (ECI).	ics_auth	String (2)
encrypted_payment_data	The encrypted payment data value.  If you are using the CyberSource decryption option, populate this field with the encrypted payment data value returned by the Full Wallet request.  See <a href="#">"Google Pay Overview," page 8</a> .	ics_auth (R)	

1 The TC 33 Capture file contains information about the purchases and refunds that a merchant submits to CyberSource. CyberSource through VisaNet creates the TC 33 Capture file at the end of the day and sends it to the merchant's acquirer, who uses this information to facilitate end-of-day clearing processing with payment card companies.

2 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 18](#). **Important** It is your responsibility to determine whether a field is required for the transaction you are requesting.

**Table 3 Request Fields (Continued)**

Field	Description	Used By: Required (R) or Optional (O)	Data Type (Length)
grand_total_amount	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.	ics_auth (R)	Decimal (15)
ics_applications	CyberSource services to process for the request:  ics_auth	ics_auth (R)	String (255)
merchant_id	Your CyberSource merchant ID. Use the same merchant ID for evaluation, testing, and production.	ics_auth (R)	String (30)
merchant_ref_number	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 <a href="#">Getting Started with CyberSource Advanced for the SCMP API</a> .	ics_auth (R)	String (50)
network_token_cryptogram	Token authentication verification value cryptogram. For token-based transactions with 3D Secure, you must submit both types of cryptograms: network token and 3D Secure.  The value for this field must be 28-character Base64 or 40-character hex binary. All cryptograms use one of these formats.	ics_auth (O)	String (40)
pa_specification_version	The 3D Secure version that you used for strong customer authentication (SCA); for example, 3D Secure version 1.0.2 or 2.0.0.	ics_auth (O)	String (20)
payment_network_token_assurance_level	Confidence level of the tokenization. This value is assigned by the token service provider.  <b>Note</b> This field is supported only for CyberSource through VisaNet and FDC Nashville Global.	ics_auth (O)	String (2)

1 The TC 33 Capture file contains information about the purchases and refunds that a merchant submits to CyberSource. CyberSource through VisaNet creates the TC 33 Capture file at the end of the day and sends it to the merchant's acquirer, who uses this information to facilitate end-of-day clearing processing with payment card companies.

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

Table 3 Request Fields (Continued)

Field	Description	Used By: Required (R) or Optional (O)	Data Type (Length)
payment_network_ token_device_tech_type	Type of technology used in the device to store token data. Possible value:  002: Host card emulation (HCE)  Emulation of a smart card by using software to create a virtual and exact representation of the card. Sensitive data is stored in a database that is hosted in the cloud. For storing payment credentials, a database must meet very stringent security requirements that exceed PCI DSS.  <b>Note</b> This field is supported only for FDC Compass.	ics_auth (O)	Integer (3)
payment_network_ token_requestor_id	Value that identifies your business and indicates that the cardholder's account number is tokenized. This value is assigned by the token service provider and is unique within the token service provider's database.  <b>Note</b> This field is supported only for CyberSource through VisaNet, FDC Nashville Global, and Chase Paymentech Solutions.	ics_auth (O)	Integer (11)
payment_network_ token_transaction_type	Type of transaction that provided the token data. This value does not specify the token service provider; it specifies the entity that provided you with information about the token.  Possible value:  ■ 1: In-app transaction.  An application on the customer's mobile device provided the token data for an e-commerce transaction.  <b>Note</b> This field is used only for merchant-initiated transactions with Elavon Americas.	ics_auth (O)	String (1)
payment_solution	Identifies Google Pay as the payment solution that is being used for the transaction:  Set the value for this field to 012.  This unique ID differentiates digital solution transactions within the CyberSource platform for reporting purposes.	ics_auth (R)	String (3)

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

**Table 3 Request Fields (Continued)**

Field	Description	Used By: Required (R) or Optional (O)	Data Type (Length)
pos_environment	<p>Operating environment. This field is supported only for American Express Direct and CyberSource through VisaNet.</p> <p>Possible values:</p> <ul style="list-style-type: none"> <li>■ 0: No terminal used or unknown environment.</li> <li>■ 1: On merchant premises, attended.</li> <li>■ 2: On merchant premises, unattended, or cardholder terminal. Examples: oil, kiosks, self-checkout, home computer, mobile telephone, personal digital assistant (PDA). Cardholder terminal is supported only for Mastercard transactions on CyberSource through VisaNet.</li> <li>■ 3: Off merchant premises, attended. Examples: portable POS devices at trade shows, at service calls, or in taxis.</li> <li>■ 4: Off merchant premises, unattended, or cardholder terminal. Examples: vending machines, home computer, mobile telephone, PDA. Cardholder terminal is supported only for Mastercard transactions on CyberSource through VisaNet.</li> <li>■ 5: On premises of cardholder, unattended.</li> <li>■ 9: Unknown delivery mode.</li> <li>■ S: Electronic delivery of product. Examples: music, software, or eTickets that are downloaded over the Internet.</li> <li>■ T: Physical delivery of product. Examples: music or software that is delivered by mail or by courier.</li> </ul> <p><b>CyberSource through VisaNet</b> For Mastercard transactions, the only valid values are 2 and 4.</p>	ics_auth (O)	String (1)

1 The TC 33 Capture file contains information about the purchases and refunds that a merchant submits to CyberSource.

CyberSource through VisaNet creates the TC 33 Capture file at the end of the day and sends it to the merchant's acquirer, who uses this information to facilitate end-of-day clearing processing with payment card companies.

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

## Reply Fields



Because CyberSource can add reply fields, reply codes, and reply flags 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 reply codes and reply flags without problems.
- Your error handler should use the **ics\_rcode** field to determine the result if it receives a reply flag that it does not recognize.

Your payment processor can include API reply fields that are not documented in this guide. See [Credit Card Services Using the SCMP API](#) for detailed descriptions of additional API reply fields.

**Table 4** Reply Fields

Field	Description	Returned By	Data Type & Length
auth_auth_amount	Amount that was authorized.	ics_auth	Decimal (15)
auth_auth_avs	AVS result code. See <a href="#">Credit Card Services Using the SCMP API</a> for a detailed list of AVS values.	ics_auth	String (1)
auth_auth_code	Authorization code. Returned only when the processor returns this value.	ics_auth	String (7)
auth_auth_response	For most processors, this value is the error message sent directly from the bank. Returned only when the processor returns this value.	ics_auth	String (10)
auth_auth_time	Time of authorization. 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.	ics_auth	Date and time (20)
auth_avs_raw	AVS result code sent directly from the processor. Returned only when the processor returns this value.	ics_auth	String (10)

<sup>1</sup> The TC 33 Capture file contains information about the purchases and refunds that a merchant submits to CyberSource. CyberSource through VisaNet creates the TC 33 Capture file at the end of the day and sends it to the merchant's acquirer, who uses this information to facilitate end-of-day clearing processing with payment card companies.



Table 4 Reply Fields (Continued)

Field	Description	Returned By	Data Type & Length
auth_payment_card_service	<p>Mastercard service that was used for the transaction. Mastercard provides this value to CyberSource. Possible value:</p> <p>53: Mastercard card-on-file token service</p> <p><b>CyberSource through VisaNet</b></p> <p>The value for this field corresponds to the following data in the TC 33 capture file<sup>1</sup>:</p> <ul style="list-style-type: none"> <li>■ Record: CP01 TCR6</li> <li>■ Position: 133-134</li> </ul> <p>Field: Mastercard Merchant on-behalf service.</p> <p><b>Note</b> This field is returned only for CyberSource through VisaNet.</p>	ics_auth	String (2)
auth_payment_card_service_result	<p>Result of the Mastercard card-on-file token service. Mastercard provides this value to CyberSource. Possible values:</p> <ul style="list-style-type: none"> <li>■ C: Service completed successfully.</li> <li>■ F: One of the following: <ul style="list-style-type: none"> <li>● Incorrect Mastercard POS entry mode. The Mastercard POS entry mode should be 81 for an authorization or authorization reversal.</li> <li>● Incorrect Mastercard POS entry mode. The Mastercard POS entry mode should be 01 for a tokenized request.</li> <li>● Token requestor ID is missing or formatted incorrectly.</li> </ul> </li> <li>■ I: One of the following: <ul style="list-style-type: none"> <li>● Invalid token requestor ID.</li> <li>● Suspended or deactivated token.</li> <li>● Invalid token (not in mapping table).</li> </ul> </li> <li>■ T: Invalid combination of token requestor ID and token.</li> <li>■ U: Expired token.</li> <li>■ W: Primary account number (PAN) listed in electronic warning bulletin. This field is returned only for CyberSource through VisaNet.</li> </ul> <p><b>Note</b> This field is returned only for CyberSource through VisaNet.</p>	ics_auth	String (1)

<sup>1</sup> The TC 33 Capture file contains information about the purchases and refunds that a merchant submits to CyberSource. CyberSource through VisaNet creates the TC 33 Capture file at the end of the day and sends it to the merchant's acquirer, who uses this information to facilitate end-of-day clearing processing with payment card companies.

**Table 4 Reply Fields (Continued)**

Field	Description	Returned By	Data Type & Length
auth_rcode	Indicates whether the service request was successful. Possible values: <ul style="list-style-type: none"> <li>■ -1: An error occurred.</li> <li>■ 0: The request was declined.</li> <li>■ 1: The request was successful.</li> </ul>	ics_auth	Integer (1)
auth_reversal_ payment_card_service	Mastercard service that was used for the transaction. Mastercard provides this value to CyberSource. Possible value:  53: Mastercard card-on-file token service  <b>CyberSource through VisaNet</b> The value for this field corresponds to the following data in the TC 33 capture file <sup>1</sup> : <ul style="list-style-type: none"> <li>■ Record: CP01 TCR6</li> <li>■ Position: 133-134</li> </ul> Field: Mastercard Merchant on-behalf service.  <b>Note</b> This field is returned only for CyberSource through VisaNet.	ics_auth_ reversal	String (2)

<sup>1</sup> The TC 33 Capture file contains information about the purchases and refunds that a merchant submits to CyberSource. CyberSource through VisaNet creates the TC 33 Capture file at the end of the day and sends it to the merchant's acquirer, who uses this information to facilitate end-of-day clearing processing with payment card companies.

Table 4 Reply Fields (Continued)

Field	Description	Returned By	Data Type & Length
auth_reversal_ payment_card_service_ result	<p>Result of the Mastercard card-on-file token service. Mastercard provides this value to CyberSource. Possible values:</p> <ul style="list-style-type: none"> <li>■ C: Service completed successfully.</li> <li>■ F: One of the following: <ul style="list-style-type: none"> <li>● Incorrect Mastercard POS entry mode. The Mastercard POS entry mode should be 81 for an authorization or authorization reversal.</li> <li>● Incorrect Mastercard POS entry mode. The Mastercard POS entry mode should be 01 for a tokenized request.</li> <li>● Token requestor ID is missing or formatted incorrectly.</li> </ul> </li> <li>■ I: One of the following: <ul style="list-style-type: none"> <li>● Invalid token requestor ID.</li> <li>● Suspended or deactivated token.</li> <li>● Invalid token (not in mapping table).</li> </ul> </li> <li>■ T: Invalid combination of token requestor ID and token.</li> <li>■ U: Expired token.</li> <li>■ W: Primary account number (PAN) listed in electronic warning bulletin. This field is returned only for CyberSource through VisaNet.</li> </ul> <p><b>Note</b> This field is returned only for CyberSource through VisaNet.</p>	ics_auth_ reversal	String (1)
auth_rflag	One-word description of the result of the entire request. See <a href="#">Credit Card Services Using the SCMP API</a> for a detailed list of <b>rflag</b> values.	ics_auth	String (50)
auth_rmsg	Message that explains the reply flag <b>auth_rflag</b> . Do not display this message to the customer, and do not use this field to write an error handler.	ics_auth	String (255)
auth_trans_ref_no	Reference number for the transaction.  This value is not returned for all processors.	ics_auth	String (60)
<p><sup>1</sup> The TC 33 Capture file contains information about the purchases and refunds that a merchant submits to CyberSource. CyberSource through VisaNet creates the TC 33 Capture file at the end of the day and sends it to the merchant's acquirer, who uses this information to facilitate end-of-day clearing processing with payment card companies.</p>			

Table 4 Reply Fields (Continued)

Field	Description	Returned By	Data Type & Length
auth_transaction_qualification	<p>Type of authentication for which the transaction qualifies as determined by the Mastercard authentication service, which confirms the identity of the cardholder. Mastercard provides this value to CyberSource. Possible values:</p> <ul style="list-style-type: none"> <li>■ 1: Transaction qualifies for Mastercard authentication type 1.</li> <li>■ 2: Transaction qualifies for Mastercard authentication type 2.</li> </ul> <p><b>CyberSource through VisaNet</b> The value for this field corresponds to the following data in the TC 33 capture file<sup>1</sup>:</p> <ul style="list-style-type: none"> <li>■ Record: CP01 TCR6</li> <li>■ Position: 132</li> </ul> <p>Field: Mastercard Member Defined Data.</p> <p><b>Note</b> This field is returned only for CyberSource through VisaNet.</p>	ics_auth	String (1)
card_suffix	<p>Last four digits of the cardholder's account number. This field is returned only for tokenized transactions. You can use this value on the receipt that you give to the cardholder.</p> <p><b>CyberSource through VisaNet</b> The value for this field corresponds to the following data in the TC 33 capture file<sup>1</sup>:</p> <ul style="list-style-type: none"> <li>■ Record: CP01 TCRB</li> <li>■ Position: 85</li> </ul> <p>Field: American Express last 4 PAN return indicator.</p> <p><b>Note</b> This field is returned only for CyberSource through VisaNet and FDC Nashville Global.</p>	ics_auth	String (4)
currency	<p>Currency used for the order. For the possible values, see the <a href="#">ISO Standard Currency Codes</a>.</p>	ics_auth	String (5)
ics_rcode	<p>Indicates whether the service request was successful. Possible values:</p> <ul style="list-style-type: none"> <li>■ -1: An error occurred.</li> <li>■ 0: The request was declined.</li> <li>■ 1: The request was successful.</li> </ul>	ics_auth	Integer (1)

<sup>1</sup> The TC 33 Capture file contains information about the purchases and refunds that a merchant submits to CyberSource. CyberSource through VisaNet creates the TC 33 Capture file at the end of the day and sends it to the merchant's acquirer, who uses this information to facilitate end-of-day clearing processing with payment card companies.

Table 4 Reply Fields (Continued)

Field	Description	Returned By	Data Type & Length
ics_rflag	One-word description of the result of the entire request. See <a href="#">Credit Card Services Using the SCMP API</a> for a detailed list of <b>rflag</b> values.	ics_auth	String (50)
ics_rmsg	Message that explains the reply flag <b>ics_rflag</b> . Do not display this message to the customer, and do not use this field to write an error handler.	ics_auth	String (255)
merchant_ref_number	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.	ics_auth	String (50)
payment_network_token_account_status	Possible values: <ul style="list-style-type: none"> <li>■ N: Nonregulated</li> <li>■ R: Regulated</li> </ul> <b>Note</b> This field is returned only for CyberSource through VisaNet.	ics_auth	String (1)
payment_network_token_assurance_level	Confidence level of the tokenization. This value is assigned by the token service provider. <b>Note</b> This field is returned only for CyberSource through VisaNet and FDC Nashville Global.	ics_auth	String (2)
payment_network_token_original_card_category	Mastercard product ID associated with the primary account number (PAN). For the possible values, see <a href="#">"Mastercard Product IDs" in Credit Card Services Using the SCMP API</a> . <p><b>CyberSource through VisaNet</b></p> For the possible values, see <a href="#">"Mastercard Product IDs" in Credit Card Services for CyberSource through VisaNet Using the SCMP API</a> . <b>Note</b> This field is returned only for Mastercard transactions for CyberSource through VisaNet.	ics_auth	String (3)
payment_network_token_requestor_id	Value that identifies your business and indicates that the cardholder's account number is tokenized. This value is assigned by the token service provider and is unique within the token service provider's database. This value is returned only if the processor provides it. <b>Note</b> This field is returned only for CyberSource through VisaNet and FDC Nashville Global.	ics_auth	Integer (11)
request_id	Identifier for the request generated by the client.	ics_auth	String (26)

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**Table 4 Reply Fields (Continued)**

Field	Description	Returned By	Data Type & Length
request_token	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.	ics_auth	String (256)
token_expiration_month	Month in which the token expires. CyberSource includes this field in the reply message when it decrypts the payment blob for the tokenized transaction.  Format: MM.  Possible values: 01 through 12.  <b>Note</b> This field is returned only for merchant-initiated transactions with Elavon Americas.	ics_auth	String (2)
token_expiration_year	Year in which the token expires. CyberSource includes this field in the reply message when it decrypts the payment blob for the tokenized transaction.  Format: YYYY.  <b>Note</b> This field is returned only for merchant-initiated transactions with Elavon Americas.	ics_auth	String (4)
token_prefix	First six digits of token. CyberSource includes this field in the reply message when it decrypts the payment blob for the tokenized transaction.  <b>Note</b> This field is returned only for merchant-initiated transactions with Elavon Americas.	ics_auth	String (6)
token_suffix	Last four digits of token. CyberSource includes this field in the reply message when it decrypts the payment blob for the tokenized transaction.  <b>Note</b> This field is returned only for merchant-initiated transactions with Elavon Americas.	ics_auth	String (4)

<sup>1</sup> The TC 33 Capture file contains information about the purchases and refunds that a merchant submits to CyberSource. CyberSource through VisaNet creates the TC 33 Capture file at the end of the day and sends it to the merchant's acquirer, who uses this information to facilitate end-of-day clearing processing with payment card companies.