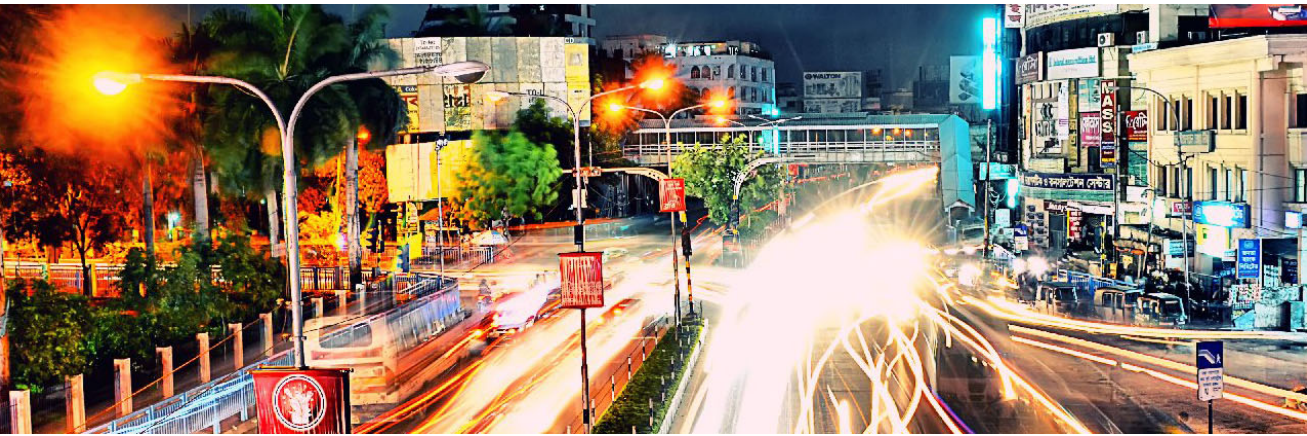


Masterpass

Using the SCMP API



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Recent Revisions to This Document

Release	Changes
May 2020	This revision contains only editorial changes and no technical updates.
October 2019	Updated Business Center enrollment procedure. See "Enrolling in Masterpass," page 11.
June 2019	Changed the name of <i>Mastercard SecureCode</i> to <i>Mastercard Identity Check</i> .
April 2018	This revision contains only editorial changes and no technical updates.
March 2018	Moved content from the "Masterpass Process" section into the section "How Masterpass and CyberSource Work Together." See "How Masterpass and CyberSource Work Together," page 10. Added "Authorization with Masterpass Data." See "Authorization with Masterpass Data," page 12.
January 2018	Initial release.

About This Guide

Audience and Purpose

This guide is written for application developers who want to use the CyberSource SCMP API to integrate Masterpass into their order management system.

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

Conventions

The following special statements are used in this document:



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



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



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

The following text conventions are used in this document:

Convention	Usage
bold	Field and service names in text; for example: Include the ics_applications field.
screen text	<ul style="list-style-type: none"> ■ XML elements ■ Code examples ■ Values for API fields; for example: Set the ics_applications field to <code>ics_auth</code>.

Related Documentation

CyberSource Documents

- *Getting Started with CyberSource Advanced for the SCMP API* ([PDF](#) | [HTML](#))
- *Credit Card Services Using the SCMP API* ([PDF](#) | [HTML](#))
- *Payer Authentication Using the SCMP API* ([PDF](#) | [HTML](#))

Refer to the Support Center for complete CyberSource technical documentation:

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

Masterpass Documents

- *Masterpass Merchant Integration*, Version 7—Masterpass documentation page to get started embedding Masterpass into your web and mobile shopping experiences.
- *Branding*—Masterpass page for integrating the Masterpass button URLs and Masterpass mark URLs.
- *Masterpass Branding Requirements*—Masterpass page intended to ensure that merchants, service providers, and their developers appropriately integrate Masterpass' branding in their checkout environment.
- *Masterpass Digital Assets*—Masterpass page that describes all the different digital assets available for merchants and service providers to integrate Masterpass into their consumer shopping experience.

Customer Support

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

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

Integrating Masterpass into Your System

Requirements

- You must have a CyberSource account. If you do not already have a CyberSource account, contact your local CyberSource sales representative to inquire about Masterpass eligibility and enrollment:
<http://www.cybersource.com/locations/>
- You must contact CyberSource Customer Support to have your account configured for Masterpass.
- CyberSource Business Center account.
- You must be familiar with the CyberSource credit card services as described in [Credit Card Services Using the SCMP API](#).
- If you are including payer authentication in your Masterpass implementation, you must be familiar with those services as described in [Payer Authentication Using the SCMP API](#).



You must disable the CyberSource Address Verification System (AVS) checks. To disable AVS checks for authorization requests, contact CyberSource technical support. You can obtain the customer's first name and last name during your web site's checkout process. You can provide the customer's first name and last name in the authorization request.

Supported Countries

For a list of the countries and associated currencies from which Masterpass payments are accepted, refer to [Appendix D, "Supported Countries, Regions, and Payment Currencies,"](#) on page 22.

Using the CyberSource API to Access Masterpass

With Masterpass, the customer passes Masterpass transaction identifiers instead of payment information. When you request an authorization, pass the following parameters:

- `wallet_order_id`: set the field value to the Masterpass `oauth_token` received in the Masterpass button response payload (see <http://oauth.net>). When checkout is complete, the Masterpass platform sends its response to the callback URL defined in your profile. This value is passed in either the query parameter or the response.
- `wallet_merchant_reference_id`: this field contains the unique cart ID value that you use in your code to initiate the Masterpass button. For more information about the Masterpass cart ID, see <http://developer.mastercard.com>.

Payment Flow

Figure 1 Masterpass Payment Flow



- 1 Your web site integrates directly with Masterpass and displays a Masterpass button that you display on your checkout page. This button captures the Masterpass callback response.
- 2 When a customer chooses the Masterpass button at checkout, it interacts with the Masterpass wallet service and provides a response payload containing unique Masterpass IDs to the redirect URL.

- 3 Masterpass passes the transaction ID and checkout data to your order management system.
- 4 **Optional:** you request the GET Masterpass data service, which retrieves Masterpass payment data. You can display the retrieved data to help the customer confirm the purchase. See "[Retrieving Masterpass Data](#)," page 12.

The retrieved data does not include the payment account number (PAN) unless your Masterpass account is configured to receive the PAN. During Masterpass enrollment, you can choose to receive PAN data when you request the GET Masterpass data service. You must agree to handle the PAN data in compliance with the Payment Card Industry Data Security Standard (PCI-DSS).
- 5 You send a credit card authorization request to CyberSource. Instead of including payment information in the authorization request, you include the Masterpass wallet order ID and wallet merchant reference ID. The wallet order ID is a reply field contained in the response. The merchant reference ID is defined when a customer activates the Masterpass button.
- 6 At various times in the transaction cycle, you can notify the customer about the transaction status.

How Masterpass and CyberSource Work Together

The Masterpass onboarding process is integrated into the CyberSource Business Center, which makes it easy for you to accept Masterpass as a payment option. CyberSource provides the following services to assist with your Masterpass integration:

- **GET Masterpass data:** this service retrieves Masterpass data using Masterpass identifiers included in their Masterpass button response payload in the form of a callback URL. The callback URL contains parameters that you must include in the authorization request (see <https://developer.mastercard.com/page/masterpass-checkout-faqs>). This service retrieves data to display to the customer during checkout.
- **Authorization:** this service enables you to send an authorization request to your processor using Masterpass transaction identifiers.

The following sequence outlines how Masterpass and CyberSource work together.

- 1 A cardholder goes to your web site to place an order and chooses Masterpass as the payment option. For details about this step, contact your CyberSource sales representative.
- 2 The cardholder logs in to Masterpass and chooses a form of payment and a shipping location.

- 3 **Optional:** Masterpass performs 3D Secure (Mastercard Identity Check) to authenticate the cardholder.
- 4 Masterpass responds with the transaction ID (see [wallet_xid](#), page 17).
- 5 **Optional:** you request the GET Masterpass data service. See "[Retrieving Masterpass Data](#)," page 12.



If you use this option, you cannot request the CyberSource authorization service as specified in [Step 6](#).

- 6 You request the CyberSource authorization service providing the Masterpass transaction ID instead of payment credentials. See "[Authorization with Masterpass Data](#)," page 12.
- 7 CyberSource obtains the payment data directly from Masterpass and authorizes the transaction.

Enrolling in Masterpass

To enroll in Masterpass:

- Step 1** Log in to the Business Center:
<https://ebc2.cybersource.com/ebc2/>
- Step 2** On the left navigation pane, click the **Payment Configuration** icon.
- Step 3** Click **Digital Payment Solutions**. The Digital Payments page appears.
- Step 4** Click **Configure**. The Masterpass Registration panel opens.
- Step 5** Review and accept the Masterpass Operating Rules, and then click **Agree and Create Account**.
- Step 6** Provide your merchant details and any additional security options that you want to enable.
- Step 7** Click **Enroll Merchant**. The Enrollment Details panel opens.



You must keep your own copy of the Masterpass checkout ID in a safe place. You are responsible for maintaining adequate security and control of your Masterpass checkout ID.

Retrieving Masterpass Data

The GET Masterpass data service enables you to retrieve the Masterpass data (except the PAN, unless your account is configured to receive it). You can display the data to help the customer confirm the purchase.

To create a GET Masterpass data service request:

Step 1 Set the `ics_applications` field to `ics_get_masterpass_data`.

Step 2 Do not include any other CyberSource services in the request.

Step 3 Include the following required fields in the request:

- `ics_applications`
- `merchant_id`
- `merchant_ref_number`
- `payment_solution`
- `wallet_order_id`
- `wallet_merchant_reference_id`

See [Appendix A, "API Fields," on page 14](#) for:

- Descriptions of these required request fields
 - Descriptions of all reply fields
-

Authorization with Masterpass Data

When you request the CyberSource authorization service, include Masterpass identifiers instead of payment information.

The following fields are required:

- `currency`
- `grand_total_amount`
- `ics_applications`—set to `ics_auth`
- `merchant_id`
- `merchant_ref_number`
- `payment_solution`—set to `005`
- `request_id`
- `wallet_merchant_reference_id`
- `wallet_order_id`

The following field values are obtained from the Masterpass payment request.

- `wallet_order_id`—taken from the Masterpass `oauth_token` field.
- `wallet_merchant_reference_id`—taken from the Masterpass cart ID.

For descriptions of request fields, see ["API Fields," page 14](#).

For descriptions of request fields unavailable in this guide, see [Credit Card Services Using the SCMP API](#).

Using 3D Secure with Masterpass

To integrate payer authentication using the SCMP API, see:

- [Credit Card Services Using the SCMP API](#)
- [Payer Authentication Using the SCMP API](#)

Using Decision Manager with Masterpass

While the Masterpass response contains many of the fields necessary to run Decision Manager, the Masterpass response does not contain the following essential Decision Manager fields:

- Device fingerprint
- True IP address

You must capture these fields independently.

Credentials-on-File

Masterpass does not automatically support credentials-on-file (COF) transactions. Contact your CyberSource representative to initiate a Masterpass review for authorization to proceed with a COF solution.

API Fields

Formatting Restrictions

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



Values for request-level and offer-level fields must not contain carets (^) or colons (:). However, they can contain embedded spaces and any other printable characters. When you use more than one consecutive space, CyberSource removes the extra spaces.

Data Type Definitions

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

Table 1 Data Type Definitions

Data Type	Description
Date and time	Format is YYYY-MM-DDThhmmssZ, where: <ul style="list-style-type: none"> ■ T separates the date and the time ■ Z indicates Coordinated Universal Time (UTC), also known as Greenwich Mean Time (GMT) Example 2020-01-11T224757Z equals January 11, 2020, at 22:47:57 (10:47:57 p.m.)
Decimal	Number that includes a decimal point Example 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

Request-Level Fields

Table 2 Request-Level Fields for the GET Masterpass Data Service

Field	Description	Used By: Required (R) or Optional (O)	Data Type & Length
wallet_merchant_reference_id	Reference number that you provided to Masterpass. The only special character allowed is a hyphen (-).	ics_auth (R) ics_get_masterpass_data (R)	String (100)
wallet_order_id	Order identifier generated by Masterpass.	ics_auth (R) ics_get_masterpass_data (R)	String (100)

Reply Fields

The GET Masterpass data service returns all the data to you, except the PAN, unless your account is configured to receive it.

Table 3 Reply Fields for the GET Masterpass Data Service

Field	Description	Data Type & Length
bill_address1	First line of the street address in the billing address as it appears on the credit card issuer's records.	String (60)
bill_address2	Additional address information in the billing address.	String (60)
bill_address3	Additional address information in the billing address.	String (60)
bill_address4	Additional address information in the billing address.	String (60)
bill_address5	Additional address information in the billing address.	String (60)
bill_city	City in the billing address.	String (50)
bill_country	Country in the billing address. For the possible values, see ISO Standard Country Codes .	String (2)
bill_state	State or province in the billing address. For the possible values, see State, Province, and Territory Codes for the United States and Canada .	String (2)
bill_zip	Postal code in the billing address.	String (10)
card_suffix	Credit card suffix. This value is the last four digits of the customer's account number. You can use this value on the receipt that you give to the customer.	String with numbers only (4)
card_type	Displays the three-digit CYBS card type value associated with the card type name.	String (25)

Table 3 Reply Fields for the GET Masterpass Data Service (Continued)

Field	Description	Data Type & Length
card_type_name	Card brand name associated with the customer's card number as provided by Mastercard.	String (25)
customer_cc_expmo	Two-digit month in which the credit card expires. Format: MM. Possible values: 01 through 12.	String with numbers only (2)
customer_cc_expyr	Four-digit year in which the credit card expires. Format: YYYY.	String with numbers only (4)
customer_cc_number	Customer's credit card number. Returned only when your account is configured to receive it.	String (19)
customer_name	Customer name.	String (50)
payment_account_reference	Payment account reference associated with the card.	String (32)
payment_network_merchant_id	Merchant ID assigned by the payment card company.	String (6)
payment_network_token_requestor_id	Token requester ID of the token.	String (11)
ship_to_address1	First line of the shipping address.	String (60)
ship_to_address2	Additional address information in the billing address.	String (60)
ship_to_address3	Additional address information in the billing address.	String (60)
ship_to_address4	Additional address information in the billing address.	String (60)
ship_to_address5	Additional address information in the billing address.	String (60)
ship_to_city	City of the shipping address.	String (50)
ship_to_country	Country of the shipping address. For the possible values, see ISO Standard Country Codes .	String (2)
ship_to_state	State or province of the shipping address. For the possible values, see State, Province, and Territory Codes for the United States and Canada .	String (2)
ship_to_zip	Postal code for the shipping address. Consists of 5 to 9 digits.	String (10)
wallet_aav	Account authentication value (AAV). For Visa transactions, this value is referred to as the customer authentication verification value (CAVV). For Mastercard transactions, this value is referred to as the universal customer authentication field (UCAF).	String (255)
wallet_authentication_method	Method used by the wallet provider to authenticate the customer. Possible values: <ul style="list-style-type: none"> ■ 3DS: The customer was authenticated using 3D Secure. ■ No authentication: The customer was not authenticated. 	String (17)

Table 3 Reply Fields for the GET Masterpass Data Service (Continued)

Field	Description	Data Type & Length
wallet_card_enrollment_method	<p>Enrollment method used to add the card to the wallet. Possible values:</p> <ul style="list-style-type: none"> ■ 3DS Manual: Customer enrolled the card manually. 3D Secure authentication was performed during enrollment. ■ Direct Provisioned: Issuer enrolled the card. ■ Manual: Customer enrolled the card manually. 3D Secure authentication was not performed during enrollment. ■ NFC Tap: Customer enrolled the card by tapping the card at an NFC terminal. (This value is not supported by CyberSource at this time). 	String (25)
wallet_eci_raw	<p>Raw e-commerce indicator (ECI). Possible values:</p> <ul style="list-style-type: none"> ■ 01: Mastercard: incomplete authentication. ■ 02: Mastercard: successful authentication. ■ 05: Visa, American Express, JCB, and Diners club: successful authentication. ■ 06: Visa, American Express, JCB, and Diners Club: successful authentication 	String (2)
wallet_pares_status	<p>Payer authentication response status. Possible values:</p> <ul style="list-style-type: none"> ■ A: Proof of authentication attempt was generated. ■ N: Customer failed or canceled authentication. Transaction denied. ■ U: authentication not completed regardless of the reason. ■ Y: Successfully authenticated. 	String (1)
wallet_type	Identifies the type of Masterpass wallet.	String (3)
wallet_user_phone	<p>Customer phone number associated with the wallet.</p> <p>Note This might not be the same as the phone number associated with the card account.</p>	String (15)
wallet_veres_enrolled	<p>Verification response enrollment status. Possible values:</p> <ul style="list-style-type: none"> ■ N: Card is not enrolled. ■ U: Unable to determine whether the card is enrolled. ■ Y: Card is enrolled. 	String (1)
wallet_xid	Transaction identifier (XID).	String (255)

Examples

Example 1 GET Masterpass Data Request

```
wallet_merchant_reference_id=1efed583-1824-436a-869f-286ebdb22ae4
wallet_order_id=7ee4b76fe5837a3b939583ab3153769b14eacb35
payment_solution=005
ics_applications=ics_get_masterpass_data
merchant_id=masterpass_fdiglobal
merchant_ref_number=TC143799_1
```

Example 2 GET Masterpass Data Reply

```

card_type_name=MasterCard
request_token=AhizbwSTF94hqVknzUQkGwJP9xDHIbgD6lDJt/9i4ngbP4BOAAAArwh
ship_to_state=KA
get_masterpass_data_rcode=1
bill_city=Topeka
customer_cc_number=5XXXXXXXXXXXXXXXXX
request_id=5162647857316001301540
bill_address2=stree2
bill_address1=street1
get_masterpass_data_rmsg=Request was processed successfully
bill_state=KA
wallet_type=101
customer_cc_expmo=12
customer_cc_expyr=2021
bill_zip=094404
ics_rmsg=Request was processed successfully.
ship_to_zip=094404
ship_to_country=US
ics_rflag=SOK
card_type=002
ship_to_address2=stree2
ship_to_address1=street1
bill_country=US
wallet_authentication_method=NO AUTHENTICATION
get_masterpass_data_rflag=SOK
merchant_ref_number=TC143799_1
wallet_user_phone=6508675309
customer_name=Richard Deckard
ship_to_city=Topeka
ics_rcode=1
customer_email=sgudapat@visa.com

```

Example 3 Masterpass Authorization Request

```

wallet_merchant_reference_id=lefed583-1824-436a-869f-286ebdb22ae4
wallet_order_id=cc459bc58fce5e503e5b6e885ffb51850f6a8630
currency=usd
payment_solution=005
grand_total_amount=0.1
ics_applications=ics_auth,ics_bill
merchant_id=masterpass_fdiglobal
merchant_ref_number=FITFDG21111
request_id=5106501555950170035381

```

Example 4 Masterpass Authorization Reply

```
auth_auth_avs=Y
terminal_id=00092940
request_token=Ahj//wSTF+jvpa2YGJOkGxDNs1ZOWjBun+4hjoDYcn+4hjoDekBKfUoZ
Nv/sxE8DZ/AwUSYv0d9LWzAxJ0gA4zkb
bill_bill_trans_ref_no=36529407
bill_rflag=SOK
currency=usd
bill_bill_amount=0.10
request_id=5163426413066197701540
auth_rflag=SOK
bill_rcode=1
ics_rmsg=Request was processed successfully.
auth_auth_amount=0.10
bill_trans_ref_no=36529407
auth_rcode=1
auth_trans_ref_no=05U18CK0MYXH
auth_auth_code=831000
auth_rmsg=Request was processed successfully.
bill_rmsg=Request was processed successfully.
ics_rflag=SOK
auth_auth_response=00
auth_avs_raw=Y
merchant_ref_number=FITFDG21111
ics_rcode=1
```

Reply Flags

[Table 4](#) lists the reply flags returned by the SCMP API for the GET Masterpass data service. See [Getting Started with CyberSource Advanced for the SCMP API](#) for a discussion of reply codes, reply flags, and reply messages.



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.

Table 4 Reply Flags

Reply Flag	Description
SOK	Transaction was successful.

Supported Countries, Regions, and Payment Currencies

The following table identifies the countries, regions, and associated currencies from which payments are accepted:

Country or Region	Currency	Code
Argentina	Argentine peso	ARS
Australia	Australian dollar	AUD
Brazil	Brazilian real	BRL
Canada	Canadian dollar	CAD
Chile	Chilean peso	CLP
China Mainland	Chinese yuan renminbi	CNY
Colombia	Columbian peso	COP
France	Euro	EUR
Hong Kong	Hong Kong dollar	HKD
India	Indian rupee	INR
Ireland	Euro	EUR
Malaysia	Malaysian ringgit	MYR
Mexico	Mexican peso	MXN
New Zealand	New Zealand dollar	NZD
Peru	Peruvian nuevo sol	PEN
Poland	Euro	EUR
Singapore	Singapore dollar	SGD
South Africa	South African rand	ZAR
Spain	Euro	EUR
United Arab Emirates	United Arab Emirates dirham	AED
United Kingdom	British pound sterling	GBP
United States of America	United States dollar	USD