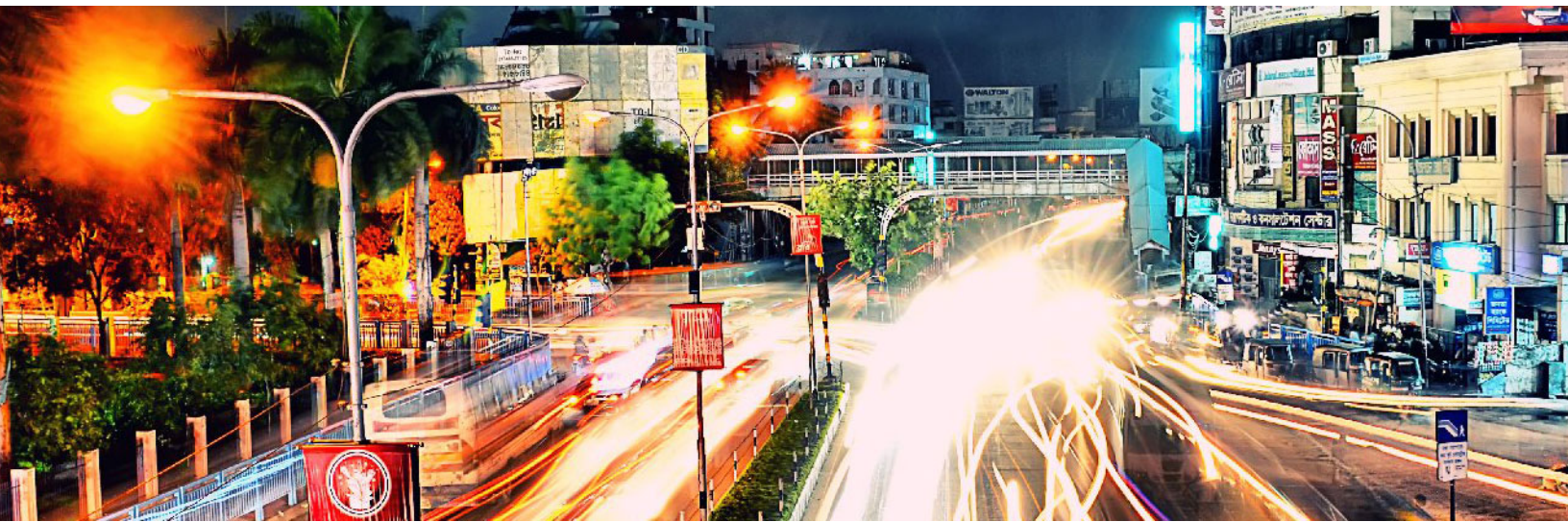


Token Management Service

Using the SCMP API



cybersource
A Visa Solution

Cybersource Contact Information

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

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

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

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Recent Revisions to This Document

| Release | Changes |
|---------------|--|
| December 2020 | <p>Added support for the processor Cielo 3.0. See "Supported Processors and Payment Methods," page 12, and override_payment_method, page 34.</p> <p>Changed <i>Cybersource through VisaNet</i> to <i>Visa Platform Connect</i>.</p> <p>Removed support for PINless debit cards.</p> <p>Moneris: added support for China UnionPay cards.</p> |
| May 2020 | <p>Updated information about retrieving a customer token. See "Retrieving a Customer Token," page 19.</p> <p>Added the on-demand credit procedure. See "Requesting On-Demand Transactions," page 22.</p> <p>Added a notification example for card enrollment. See Example 1, "PAN Enrollment Notification," on page 25.</p> <p>Updated the payment_account_reference reply field. See payment_account_reference, page 44.</p> <p>Updated "Reply: Retrieve a Customer Token," page 50.</p> |
| March 2020 | This revision contains only editorial changes and no technical updates. |
| February 2020 | <p>Updated the description for payment instrument tokens. See Payment instrument token, page 10.</p> <p>Updated the URL for information about merchant-initiated transactions. See "Merchant-Initiated Transactions," page 14.</p> |
| November 2019 | Visa Platform Connect: added support for COF network tokens for Mastercard. See "Creating Credentials-on-File Network Tokens," page 23. |
| October 2019 | <p>Added the following reply fields. See "Reply Fields," page 36.</p> <ul style="list-style-type: none"> ■ <code>pay_subscription_retrieve_latest_card_expmo</code> ■ <code>pay_subscription_retrieve_latest_card_expyr</code> ■ <code>pay_subscription_retrieve_latest_card_suffix</code> <p>Updated the Example 10, "Reply: Retrieve a Customer Token," on page 50.</p> |

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.

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

Conventions



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



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

Text and Command Conventions

| Convention | Usage |
|-------------|---|
| Bold | <ul style="list-style-type: none"> Field and service names in text; for example: Include the ics_pay_subscription_create field. Items that you are instructed to act upon; for example: Click Save. |
| Screen text | <ul style="list-style-type: none"> XML elements. Code examples and samples. Text that you enter in an API environment; for example: Set the ics_applications field to <code>ics_pay_subscription_create</code>. |

Related Documents

Table 1 **Related Documents**

| Subject | Description |
|-----------------|---|
| Account Updater | <i>Account Updater User Guide</i> (PDF HTML)—describes how to automatically incorporate changes made to a customer's payment card data. |
| Business Center | <i>Business Center Reporting User Guide</i> (PDF HTML)—describes reporting options you can use to download your transaction data. |
| Credit Card | <i>Credit Card Services Using the SCMP API</i> (PDF HTML)—describes how to integrate credit card processing into your order management system. |
| Echeck | <i>Electronic Check Services Using the SCMP API</i> (PDF HTML)—describes how to integrate Echeck processing into your order management system. |
| Payouts | <i>Payouts Using the SCMP API</i> (PDF HTML)—describes how to integrate Payouts processing into your order management system. |
| SCMP API | <ul style="list-style-type: none"> ■ <i>Getting Started with Cybersource Advanced for the SCMP API</i> (PDF HTML)—describes how to get started using the SCMP API. ■ SCMP API Documentation and Downloads 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



Contact Cybersource Customer Support to configure your account for the Token Management Service.

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

- Primary account number (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 about RESTful services, see the [Cybersource Developer Center](#).

Table 2 Token Types and Formats

| Token Type | Description | Format |
|---|---|---|
| Customer token For more information, see Chapter 2, "Creating Customer Tokens," on page 16. | <i>Payment Card Transactions and Payouts</i> Represents the tokenized: | <ul style="list-style-type: none"> ■ 32 character hexadecimal (default) ■ 19 digits, Luhn check passing ■ 16 digits, last 4 digits of card preserving, Luhn check passing¹ ■ 16 digits, Luhn check passing¹ ■ 22 digits² (Request ID) |
| | <i>Electronic Checks</i> Represents the tokenized: | <ul style="list-style-type: none"> ■ 32 character hexadecimal (default) ■ 19 digits, Luhn check passing ■ 16 digits, Luhn check passing¹ ■ 22 digits² |
| | <ul style="list-style-type: none"> ■ Payment card PAN ■ Card expiration date ■ Billing information ■ Shipping information ■ Merchant-defined data | |
| | <ul style="list-style-type: none"> ■ 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 | |
| ¹ Token format for existing merchants who implemented Cybersource services prior to 2019. | | |
| ² Can be used only for one token type—customer, payment instrument, or instrument identifier. For instrument identifier tokens, you can use the 22-digit format for payment cards and electronic checks. | | |

Table 2 Token Types and Formats (Continued)

| Token Type | Description | Format |
|---|---|--|
| Payment instrument token | Available only with TMS RESTful services. For more information on creating this token using TMS RESTful services, see Cybersource Developer Center . | |
| | <i>Payment Card Transactions and Payouts</i> Represents the tokenized: <ul style="list-style-type: none"> ■ Payment card PAN ■ Card expiration date ■ Billing information | <ul style="list-style-type: none"> ■ 32 character hexadecimal ■ 19 digits, Luhn check passing ■ 16 digits, Luhn check passing |
| Instrument identifier token | <i>Electronic Checks</i> Represents the tokenized: <ul style="list-style-type: none"> ■ Bank account and routing numbers ■ Billing information ■ Driver license information ■ Account type ■ Company tax ID ■ SEC code ■ Alternate merchant descriptor | <ul style="list-style-type: none"> ■ 22 digits² |
| | <i>Payment Card Transactions and Payouts</i> Represents the tokenized payment card PAN. | <ul style="list-style-type: none"> ■ 32 character hexadecimal ■ 19 digits, Luhn check passing ■ 19 digits, last 4 digits of card preserving (default) ■ 16 digits, Luhn check passing ■ 22 digits² |
| | <i>Electronic Checks</i> Represents the tokenized bank account and routing numbers. | <ul style="list-style-type: none"> ■ 32 character hexadecimal ■ 19 digits, Luhn check passing ■ 16 digits, Luhn check passing ■ 22 digits² |
| ¹ Token format for existing merchants who implemented Cybersource services prior to 2019. ² Can be used only for one token type—customer, payment instrument, or instrument identifier. For instrument identifier tokens, you can use the 22-digit format for payment cards and electronic checks. | | |



Multiple merchant IDs can be configured for various token types. You receive the instrument identifier token regardless of your account's token type. 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 9](#).

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 to enable relaxed requirements for address data and expiration date settings. You must confirm the token type and format that you want to use, as described in [Table 2, "Token Types and Formats."](#)
- Install the Cybersource [SCMP API client](#) or connect directly to the SCMP API.

Transaction Endpoints

For live transactions, send requests to the production server:

<http://ics2a.ic3.com>

For test transactions, send requests to the test server:

<http://ics2testa.ic3.com>

Supported Processors and Payment Methods

The processors listed in [Table 3](#) support customer and instrument identifier tokens, 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. |
| Chase Paymentech Solutions | <ul style="list-style-type: none"> ■ 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. |
| Cielo 3.0 | <ul style="list-style-type: none"> ■ Credit card—supports 0.00 preauthorizations using Visa, Mastercard, American Express, Discover, Diners Club, JCB, Hipercard, Aura, and Elo. ■ Debit card—authorization request must include override_payment_method set to DB. |
| 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 | <ul style="list-style-type: none"> ■ Credit card—supports 0.00 preauthorizations using Visa, Mastercard, and Cartes Bancaires. ■ Debit card and prepaid card. |
| Cybersource ACH Service | Electronic check. |
| Elavon Americas | Credit card—supports 0.00 preauthorizations using Visa, Mastercard, American Express, Discover, Diners Club, and China UnionPay. |
| FDC Compass | <ul style="list-style-type: none"> ■ Credit card—supports 0.00 preauthorizations for Visa and Mastercard. ■ Debit card and prepaid card. ■ Payouts. |

Table 3 Supported Processors and Payment Methods (Continued)

| Processor | Payment Methods |
|---|---|
| FDC Nashville Global | <ul style="list-style-type: none"> ■ Credit card—supports 0.00 preauthorizations for Visa and Mastercard. ■ Debit card and prepaid card. |
| FDMS Nashville | <ul style="list-style-type: none"> ■ Credit card—supports 0.00 preauthorizations for Visa. ■ Debit card and prepaid card. |
| FDMS South | <ul style="list-style-type: none"> ■ Credit card—supports 0.00 preauthorizations for Visa and Mastercard. ■ Debit card and prepaid card. |
| GPN | <ul style="list-style-type: none"> ■ Credit card—supports 0.00 preauthorizations for Visa and Mastercard. ■ Debit card and prepaid card. |
| HSBC | <p>Credit card—supports 0.00 preauthorizations for Visa and Mastercard.</p> <p>Important Does not support automatic preauthorization reversals.</p> |
| Ingenico ePayments | Credit card. |
| JCN Gateway | Credit card. |
| LloydsTSB Cardnet | Credit card. |
| Moneris | Credit card—supports 0.00 preauthorizations for Visa, Mastercard, and China UnionPay. |
| 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 | <ul style="list-style-type: none"> ■ 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 | <ul style="list-style-type: none"> ■ 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. |
| Visa Platform Connect Visa Platform Connect was previously called <i>Cybersource through VisaNet</i> . | <ul style="list-style-type: none"> ■ 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. |

Table 3 Supported Processors and Payment Methods (Continued)

| Processor | Payment Methods |
|--|---|
| 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. | <ul style="list-style-type: none"> ■ 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:

<https://support.cybersource.com/s/article/Support-for-Merchant-Initiated-Transactions-and-Credential-on-File-for-Visa-Mastercard-and-Discover>

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 12](#). 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 **recurring_disable_auto_auth** field. See [Appendix A, "API Fields," on page 27](#).

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 9](#).

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 17](#).

The customer token is returned in the **pay_subscription_create_subscription_id** field. The instrument identifier token is also returned in the **pay_subscription_create_instrument_identifier_id** 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 **ics_applications** service field to **ics_pay_subscription_create**.

Step 2 Include the following required fields in the request:

- **bill_address1**
- **bill_city**
- **bill_country**
- **bill_state**
- **bill_zip**
- **card_type**
- **currency**
- **customer_cc_expmo**
- **customer_cc_expyr**

- customer_cc_number
- customer_email
- customer_firstname
- customer_lastname
- customer_phone
- merchant_id
- merchant_ref_number
- recurring_frequency—set to on-demand
- ship_to_address1
- ship_to_city
- ship_to_country
- ship_to_firstname
- ship_to_lastname
- ship_to_state
- ship_to_zip

For detailed descriptions of request and reply fields, see [Appendix A, "API Fields," on page 27](#). For examples, see [Appendix B, "Examples," on page 45](#).

Authorize and Create a Customer Token for a Payment Card



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 **ics_applications** field to `ics_auth,ics_pay_subscription_create`.
- 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 16](#).

For detailed descriptions of request and reply fields, see [Appendix A, "API Fields," on page 27](#). For examples, see [Appendix B, "Examples," on page 45](#).

Creating a Customer Token for an Electronic Check

To request an electronic check customer token:

Step 1 Set the **ics_applications** service field to `ics_pay_subscription_create`.

Step 2 Include the following required fields in the request:

- `bill_address1`
- `bill_city`
- `bill_company_tax_id`—contact your TeleCheck representative to learn whether this field is required or optional.
- `bill_country`
- `bill_state`
- `bill_zip`
- `currency`
- `customer_email`
- `customer_firstname`
- `customer_lastname`
- `customer_phone`—contact your payment processor representative to learn whether this field is required or optional.
- `driver_license_no`—contact your TeleCheck representative to learn whether this field is required or optional.
- `driver_license_state`—contact your TeleCheck representative to learn whether this field is required or optional.
- `ecp_account_no`
- `ecp_account_type`
- `ecp_check_no`—contact your payment processor representative to learn whether this field is required or optional.
- `ecp_rdfi`

- `ecp_sec_code`—required field if your processor is TeleCheck.
- `merchant_id`
- `merchant_ref_number`
- `recurring_frequency`—set to `on-demand`.
- `subscription_payment_method`—set to `check`.

For detailed descriptions of request and reply fields, see [Appendix A, "API Fields," on page 27](#).

Retrieving a Customer Token

You can retrieve the data that is represented by the customer token. Use the payment account reference in the **`payment_account_reference`** field to analyze customer PAN usage across multiple customer tokens.

To retrieve a customer token:

Step 1 Set the **`ics_applications`** service field to `ics_pay_subscription_retrieve`.

Step 2 Include the following required fields in the request:

- `merchant_id`
- `merchant_ref_number`
- `subscription_id`

For detailed descriptions of request and reply fields, see [Appendix A, "API Fields," on page 27](#). For examples, see [Appendix B, "Examples," on page 45](#).

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 **ics_applications** service field to **ics_pay_subscription_update**.

Step 2 Include the following required fields in the request:

- **merchant_id**
- **merchant_ref_number**
- **subscription_id**

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

- **bill_address1**
- **bill_city**
- **bill_country**
- **bill_state**
- **bill_zip**
- **card_type**
- **currency**
- **customer_cc_number**
- **customer_cc_expmo**
- **customer_cc_expyr**
- **customer_email**
- **customer_firstname**
- **customer_lastname**
- **customer_phone**
- **merchant_defined_data#**
- **merchant_secure_data#**
- **recurring_frequency**—set to **on-demand**
- **ship_to_address1**
- **ship_to_city**
- **ship_to_country**
- **ship_to_firstname**
- **ship_to_lastname**
- **ship_to_state**
- **ship_to_zip**

For detailed descriptions of request and reply fields, see [Appendix A, "API Fields," on page 27](#). For examples, see [Appendix B, "Examples," on page 45](#).

Deleting a Customer Token



Instrument Identifiers can be associated with more than one payment instrument or customer token or both. 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 is returned.

To delete a customer token:

Step 1 Set the **ics_applications** service field to `ics_pay_subscription_delete`.

Step 2 Include the following required fields in the request:

- `merchant_id`
- `merchant_ref_number`
- `subscription_id`

For detailed descriptions of request and reply fields, see [Appendix A, "API Fields," on page 27](#). For examples, see [Appendix B, "Examples," on page 45](#).

Requesting On-Demand Transactions

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. See *Electronic Check Services Using the SCMP API* ([PDF](#) | [HTML](#)).

To request an on-demand sale transaction:

Step 1 Set the **ics_applications** service field to `ics_auth,ics_bill`.

Step 2 Include the following required fields in the request:

- `currency`
- `grand_total_amount`
- `merchant_id`
- `merchant_ref_number`
- `subscription_id`—set to the token value.

For detailed descriptions of request and reply fields, see [Appendix A, "API Fields," on page 27](#).

To request an on-demand credit transaction:

Step 1 Set the **ics_applications** service field to `ics_credit`.

Step 2 Include the following fields in the request:

- `currency`
- `grand_total_amount`
- `merchant_id`
- `merchant_ref_number`
- `subscription_id`—set to the token value.

For detailed descriptions of request and reply fields, see [Appendix A, "API Fields," on page 27](#).

Creating Credentials-on-File Network Tokens

Table 4 Card Types and Processors

| Card Type | Processor |
|-----------|---|
| Visa | <ul style="list-style-type: none">■ Barclays■ Chase Paymentech Solutions■ Comercio Latino■ FDC Compass■ FDC Nashville Global■ GPN■ OmniPay Direct■ Streamline■ SIX■ TSYS Acquiring Solutions■ Visa Platform Connect |

Creating credentials-on-file (COF) network tokens enables 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 16](#), and ["Updating a Customer Token," page 20](#).

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 45](#). 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 capability 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 enrolled or replaced, or the expiration dates are extended. See ["COF Network Token Notifications," page 25](#).

Requirements

Contact Cybersource Customer Support to have your account configured to create COF network tokens. When your account is configured to create tokens from a PAN, TMS attempts 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 the procedure for creating a customer token for a payment card. See ["Creating a Customer Token for a Payment Card," page 16](#).

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

- Customer token in the **pay_subscription_create_subscription_id** field.
- Instrument identifier token in the **pay_subscription_create_instrument_identifier_id** 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.



Network tokens are automatically updated through the card schemes.

Testing

To test your account for support for network tokens, use the Visa test card numbers in [Table 5](#). Remove the spaces when sending to Cybersource.

Table 5 COF Test Cards

| Card Number | 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 a PAN is successfully enrolled and 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.



Only an HTTPS URL supporting TLS 1.2 or later 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, multiple results are possible. Use the retrieve token service to retrieve the updated details. See ["Retrieving a Customer Token," page 19](#).

Example 1 PAN Enrollment Notification

```
{
  "version": "1.0",
  "id": "3213123123123",
  "type": "tokenizedCardEnrollments",
  "_links": {
    "customers": [
      {
        "href": "/tms/v2/customers/7040000000057621113"
      }
    ],
    "paymentInstruments": [
      {
        "href": "/tms/v1/paymentinstruments/7040000000057621112"
      }
    ]
  }
}
```

```

    }
  ],
  "instrumentIdentifiers": [
    {
      "href": "/tms/v1/instrumentidentifiers/7040000000057621111"
    }
  ]
}
}

```

Example 2 PAN Update Notification

```

{
  "version": "1.0",
  "id": "3213123123123",
  "type": "tokenizedCardUpdates",
  "_links": {
    "customers": [
      {
        "href": "/tms/v2/customers/8040000230021321234"
      },
      {
        "href": "/tms/v2/customers/8040000530021326588"
      }
    ],
    "paymentInstruments": [
      {
        "href": "/tms/v1/paymentinstruments/8040002500021325821"
      },
      {
        "href": "/tms/v1/paymentinstruments/8040007500021321699"
      }
    ],
    "instrumentidentifiers": [
      {
        "href": "/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 Second Edition](#).

Table 6 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 Fields

Table 7 Request Fields

| Field Name | Description | Used By & Required (R)/ Optional (O) | Data Type & Length |
|---------------------|--|--|---|
| bill_address1 | First line of the billing address. | Create (R) ¹ Update (O) | Moneris: String (50) Visa Platform Connect: String (40) Worldpay VAP: String (35) All other processors: String (60) |
| bill_address2 | Second line of the billing address. | Create (O) Update (O) | Moneris: String (50) Visa Platform Connect: String (40) Worldpay VAP: String (35) All other processors: String (60) |
| bill_city | City of the billing address. | Create (R) ¹ Update (O) | String (50) |
| bill_company_tax_id | 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) |
| bill_country | Country of the billing address. Use the two-character ISO Standard Country Codes . | 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 14. **Important** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

Table 7 Request Fields (Continued)

| Field Name | Description | Used By & Required (R)/ Optional (O) | Data Type & Length |
|-----------------------|---|---------------------------------------|--|
| bill_payment | Flag that indicates that this is a payment for a bill or for an existing contractual loan. This value is case sensitive. Possible values: <ul style="list-style-type: none"> ■ <code>false</code> (default): Not a bill payment or loan payment. ■ <code>true</code>: Bill payment or loan payment. | Create (O) | String (1) |
| bill_state | State or province in the billing address. Use the two-character State, Province, and Territory Codes for the United States and Canada . | Create (R) ¹ Update (O) | 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] 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 | Create (R) ¹ Update (O) | Visa Platform Connect: String (9) All other processors: String (10) |
| card_type | Type of card. See Appendix C, "Card Types," on page 53 for a list of valid values. To see which cards are supported for each processor, see "Supported Processors and Payment Methods," page 12 . | Create (R) Update (O) | String (3) |
| currency | Currency used by the customer. | Create (R) Update (O) | String (5) |
| customer_cc_cv_number | Card verification number. | Create (O) Update (O) | String with numbers only (4) |
| customer_cc_expmo | Expiration month. Format: MM | 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 14. **Important** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

Table 7 Request Fields (Continued)

| Field Name | Description | Used By & Required (R)/ Optional (O) | Data Type & Length |
|--------------------------|--|---------------------------------------|---|
| customer_cc_expyr | Expiration year. Format: YYYY FDC Nashville Global and FDMS South You can send 2 digits or 4 digits. When you send 2 digits, they must be the last 2 digits of the year. | Create (R) ¹ Update (O) | FDC Nashville Global and FDMS South: String (See description) All other processors: String (4) |
| customer_cc_issue_number | 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) |
| customer_cc_number | Card account number. | Create (R) Update (O) | String (20) |
| customer_cc_startmo | 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) |
| customer_cc_startyr | Year of the start of the Maestro (UK Domestic) card validity period. Format: YYYY. Possible values: 01 to 12. | Create (O) Update (O) | Nonnegative integer (4) |
| customer_email | Customer email address. | Create (R) ¹ Update (O) | String (255) |
| customer_firstname | Customer first name. | Create (R) ¹ Update (O) | String (60) |
| customer_lastname | Customer last name. | Create (R) ¹ Update (O) | String (60) |
| customer_phone | 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 14. **Important** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

Table 7 Request Fields (Continued)

| Field Name | Description | Used By & Required (R)/ Optional (O) | Data Type & Length |
|----------------------|---|--|------------------------------|
| driver_license_no | Customer driver's license number. Important Contact your TeleCheck representative to learn whether this field is required or optional. | Create (see description) Update (see description) | String (30) |
| driver_license_state | 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 learn whether this field is required or optional. | Create (see description) Update (see description) | String (2) |
| ecp_account_no | Checking account number. | Create (R for eCheck payments) Update (O) | Integer (17) |
| ecp_account_type | Checking account type. Possible values: <ul style="list-style-type: none"> ■ C: checking ■ S: savings (USD only) ■ X: corporate checking (USD only) ■ G: general ledger | Create (R for eCheck payments) Update (O) | String (1) |
| ecp_check_no | 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) |
| ecp_rdfi | Bank routing number. This value is also known as the <i>transit number</i> . | Create (R for eCheck payments) Update (O) | Integer (9) |

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

Table 7 Request Fields (Continued)

| Field Name | Description | Used By & Required (R)/ Optional (O) | Data Type & Length |
|--------------------|--|---|--------------------|
| eCP_sec_code | <p>Important This field is required if your processor is TeleCheck.</p> <p>Code that specifies the authorization method for the transaction. Possible values:</p> <ul style="list-style-type: none"> ■ CCD: corporate cash disbursement—charge or credit against a business checking account. You can use one-time or recurring CCD transactions to transfer funds to or from a corporate entity. A standing authorization is required for recurring transactions. ■ PPD: prearranged payment and deposit entry—charge or credit against 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 and a written standing authorization is required for recurring transactions. ■ TEL: telephone-initiated entry—one-time charge against 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. There is no recurring billing option for TEL. ■ WEB: internet-initiated entry—charge against 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. | <p>Create (R for eCheck payments)</p> <p>Update (O)</p> | String (3) |
| 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. | <p>Authorization (R)</p> <p>Create (R)</p> | Decimal (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 14. **Important** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

Table 7 Request Fields (Continued)

| Field Name | Description | Used By & Required (R)/ Optional (O) | Data Type & Length |
|--|--|--------------------------------------|--------------------|
| ics_applications | Comma-separated list of Cybersource services to process. Possible values: <ul style="list-style-type: none"> ■ ics_auth ■ ics_pay_subscription_create ■ ics_pay_subscription_retrieve ■ ics_pay_subscription_update ■ ics_pay_subscription_delete | Required for each service. | String (255) |
| merchant_defined_data1 merchant_defined_data2 merchant_defined_data3 merchant_defined_data4 | 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) |
| merchant_descriptor_alterate | For the description, used-by information, data type, and length, see Merchant Descriptors in <i>Credit Card Services Using the SCMP API</i> (PDF HTML). | Optional for all services. | String (13) |
| merchant_id | Your Cybersource merchant ID. Use the same merchant ID for evaluation, testing, and production. | Required for all services. | String (30) |

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

Table 7 Request Fields (Continued)

| Field Name | Description | Used By & Required (R)/ Optional (O) | Data Type & Length |
|-----------------------------|--|---|--|
| 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 Getting Started with Cybersource Advanced for the SCMP API . | Required for all services. | Asia, Middle East, and Africa Gateway: String (40) Atos: String (32) All other processors: String (50) |
| merchant_secure_data1 | 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) | String (2071) |
| merchant_secure_data2 | | Update (O) | |
| merchant_secure_data3 | | | |
| merchant_secure_data4 | | | |
| override_payment_method | Type of account associated with the card. This field is supported only for transactions with Brazilian-issued combo cards on Cielo 3.0. The customer provides this information during the payment process. Combo cards in Brazil contain credit and debit functionality in a single card. The Visa network uses a credit bank identification number (BIN) for this type of card. Using the BIN to determine whether a card is debit or credit can cause transactions with these cards to be processed incorrectly. This field enables the customer to specify whether the card should be used as a credit card or a debit card for the transaction. Possible value: DB: Debit card. | Authorization (Required for debit cards on Cielo 3.0) | String (2) |
| recurring_disable_auto_auth | 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: <ul style="list-style-type: none">■ N: No, go ahead and perform the preauthorization.■ Y: Yes, turn off the preauthorization check. | Create (O) Update (O) | 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 14. **Important** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

Table 7 Request Fields (Continued)

| Field Name | Description | Used By & Required (R)/ Optional (O) | Data Type & Length |
|---------------------|--|--------------------------------------|--------------------|
| recurring_frequency | Frequency of payments for the customer profile. Value: on-demand | Create (R) | String (20) |
| ship_to_address1 | First line of the shipping address. | Create (O) Update (O) | String (60) |
| ship_to_address2 | Second line of the shipping address. | Create (O) Update (O) | String (60) |
| ship_to_city | City of the shipping address. | Create (O) Update (O) | String (50) |
| ship_to_company | Name of the company name receiving the product. | Create (O) Update (O) | String (60) |
| ship_to_country | Country of the shipping address. Use the two-character ISO Standard Country Codes . | Create (O) Update (O) | String (2) |
| ship_to_firstname | First name of the recipient. | Create (O) Update (O) | String (60) |
| ship_to_lastname | First name of the recipient. | Create (O) Update (O) | String (60) |
| ship_to_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) |
| ship_to_zip | 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) |

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

Table 7 Request Fields (Continued)

| Field Name | Description | Used By & Required (R)/ Optional (O) | Data Type & Length |
|-----------------------------|---|--|--------------------|
| subscription_id | Identifier for the token. | Delete (R) Retrieve (R) Update (R) | String (32) |
| subscription_payment_method | Method of payment. Possible values: <ul style="list-style-type: none">■ credit card■ check | 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 14. **Important** It is your responsibility to determine whether a field is required for the transaction that you are requesting.

Reply Fields

Table 8 Reply Fields

| Field Name | Description | Returned by | Data Type & Length |
|--------------------|---|---------------|--------------------|
| auth_auth_amount | Amount that was authorized. | Authorization | Decimal (15) |
| auth_auth_avs | AVS result code. See Credit Card Services Using the SCMP API . | Authorization | String (1) |
| auth_auth_code | Authorization code. Returned only when the processor returns this value. See Credit Card Services Using the SCMP API . | Authorization | String |
| auth_auth_response | The error message sent directly from the bank. Returned only when the processor returns the value. See Credit Card Services Using the SCMP API . | Authorization | String (10) |
| auth_avs_raw | AVS result code sent directly from the processor. Returned only when the processor returns this value. See Credit Card Services Using the SCMP API . | Authorization | String (10) |
| auth_rcode | Indicates whether the service request was successful. Possible values: <ul style="list-style-type: none">■ -1: An error occurred■ 0: The request was declined■ 1: The request was successful | Authorization | Integer (1) |
| auth_rflag | One-word description of the result of the entire request. | Authorization | String (50) |

Table 8 Reply Fields (Continued)

| Field Name | Description | Returned by | Data Type & Length |
|--|--|---------------|--------------------|
| auth_rmsg | Message that explains the reply flag auth_rflag . | Authorization | String (255) |
| auth_trans_ref_no | Reference number for the transaction. This value is not returned for all processors. See Credit Card Services Using the SCMP API . | Authorization | |
| currency | Currency used by the customer. For possible values, see the ISO Standard Currency Codes . | Retrieve | String (5) |
| ics_rcode | One-digit code that indicates whether the entire request was successful. Possible values: <ul style="list-style-type: none"> ■ -1: An error occurred ■ 0: The request was declined ■ 1: The request was successful | All services | Integer (1) |
| ics_rflag | One-word description of the result of the entire request. See "Reply Flags," page 55 . | All services | String (50) |
| ics_rmsg | Message that explains the reply flag ics_rflag . See "Reply Flags," page 55 . | All services | String (255) |
| merchant_ref_number | Order reference or tracking number that you provided in the request. | All services | String (50) |
| pay_subscription_create_instrument_identifier_id | Value for the instrument identifier token assigned to the tokenized PAN. | Create | String (32) |
| pay_subscription_create_instrument_identifier_new | Indicates whether this is the first time the customer's PAN has been tokenized for the merchant. Possible values: <ul style="list-style-type: none"> ■ Y: This is the first time Cybersource has tokenized the PAN and assigned an instrument identifier. ■ N: Cybersource had previously tokenized the PAN 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 (1) |
| pay_subscription_create_instrument_identifier_status | Current status of the tokenized PAN. Possible values: <ul style="list-style-type: none"> ■ 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) |

Table 8 Reply Fields (Continued)

| Field Name | Description | Returned by | Data Type & Length |
|--|---|-------------|--------------------|
| pay_subscription_create_instrument_identifier_successor_id | 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) |
| pay_subscription_create_rcode | One-digit code that indicates whether the create service request was successful. Possible values: ■ -1: An error occurred ■ 0: The request was declined ■ 1: The request was successful | Create | Integer (1) |
| pay_subscription_create_rflag | One-word description of the result of the specific service request. See "Reply Flags," page 55 . | Create | String (50) |
| pay_subscription_create_rmsg | Message that explains the reply flag pay_subscription_create_rflag . See "Reply Flags," page 55 . | Create | String (255) |
| pay_subscription_create_subscription_id | Identifier of the token. This value is dependent on the token type for which your MID is configured. See "Token Types and Formats," page 9 . | Create | String (32) |
| pay_subscription_create_time | Date and time the token was created. Example: 2015-08-11T224757Z equals 10:47:57 P.M. on August 11, 2015. | Create | String (20) |
| pay_subscription_delete_instrument_identifier_id | Value for the deleted instrument identifier token assigned to the tokenized PAN. | Delete | String (32) |
| pay_subscription_delete_rcode | One-digit code that indicates whether the delete service request was successful. Possible values: ■ -1: An error occurred ■ 0: The request was declined ■ 1: The request was successful See "Reply Flags," page 55 . | Delete | Integer (1) |
| pay_subscription_delete_rflag | One-word description of the result of the specific service request. See "Reply Flags," page 55 . | Delete | String (50) |
| pay_subscription_delete_rmsg | Message that explains the reply flag pay_subscription_delete_rflag . See "Reply Flags," page 55 . | Delete | String (255) |
| pay_subscription_delete_subscription_id | Identifier for the deleted token. | Delete | String (32) |

Table 8 Reply Fields (Continued)

| Field Name | Description | Returned by | Data Type & Length |
|---|---|-------------|---|
| pay_subscription_ retrieve_bill_address1 | First line of the billing address. | Retrieve | Moneris: String (50) Visa Platform Connect: String (40) Worldpay VAP: String (35) All other processors: String (60) |
| pay_subscription_ retrieve_bill_address2 | Second line of the billing address. | Retrieve | Moneris: String (50) Visa Platform Connect: String (40) Worldpay VAP: String (35) All other processors: String (60) |
| pay_subscription_ retrieve_bill_city | City of the billing address. | Retrieve | String (50) |
| pay_subscription_ retrieve_bill_country | Country code for the billing address. For possible values, see the ISO Standard Country Codes . | Retrieve | String (2) |
| pay_subscription_ retrieve_bill_state | State or province in the billing address. For possible values, see the State, Province, and Territory Codes for the United States and Canada . | Retrieve | String (2) |
| pay_subscription_ retrieve_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] 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 | Retrieve | Visa Platform Connect: String (9) All other processors: String (10) |

Table 8 Reply Fields (Continued)

| Field Name | Description | Returned by | Data Type & Length |
|--|---|-------------|--------------------|
| pay_subscription_ retrieve_card_type | Type of card. See Appendix C, "Card Types," on page 53 for a list of possible values. | Retrieve | String (2) |
| pay_subscription_ retrieve_currency | Currency used by the customer. For possible values, see the ISO Standard Currency Codes . | Retrieve | String (5) |
| pay_subscription_ retrieve_customer_cc_ expmo | Two-digit month in which the credit card expires. | Retrieve | String (2) |
| pay_subscription_ retrieve_customer_cc_ expyr | Four-digit year in which the credit card expires. | Retrieve | String (4) |
| pay_subscription_ retrieve_customer_cc_ issue_number | Number of times a Maestro (UK Domestic) card has been issued to the account holder. | Retrieve | String (5) |
| pay_subscription_ retrieve_customer_cc_ issue_number | Number of times a Maestro (UK Domestic) card has been issued to the account holder. | Retrieve | String (5) |
| pay_subscription_ retrieve_customer_cc_ number | Card account number. | Retrieve | String (20) |
| pay_subscription_ retrieve_customer_cc_ startmo | Month of the start of the Maestro (UK Domestic) card validity period. Format: MM. Possible values: 01 to 12. | Retrieve | String (2) |
| pay_subscription_ retrieve_customer_cc_ startmo | Month of the start of the Maestro (UK Domestic) card validity period. Format: MM. Possible values: 01 to 12. | Retrieve | String (2) |
| pay_subscription_ retrieve_customer_cc_ startyr | Year of the start of the Maestro (UK Domestic) card validity period. Format: YYYY. Possible values: 01 to 12. | Retrieve | String (4) |
| pay_subscription_ retrieve_customer_cc_ startyr | Year of the start of the Maestro (UK Domestic) card validity period. Format: YYYY. Possible values: 01 to 12. | Retrieve | String (4) |
| pay_subscription_ retrieve_customer_email | Customer email address. | Retrieve | String (255) |

Table 8 Reply Fields (Continued)

| Field Name | Description | Returned by | Data Type & Length |
|--|---|-------------|--------------------|
| pay_subscription_ retrieve_customer_ firstname | Customer first name. | Retrieve | String (60) |
| pay_subscription_ retrieve_customer_ lastname | Customer last name. | Retrieve | String (60) |
| pay_subscription_ retrieve_customer_phone | Customer phone number. | Retrieve | String (15) |
| pay_subscription_ retrieve_frequency | Frequency of payments for the customer profile. Possible value: on-demand | Retrieve | String (20) |
| pay_subscription_ retrieve_instrument_ identifier_id | Value for the retrieved instrument identifier token assigned to the tokenized PAN. | Retrieve | String (32) |
| pay_subscription_ retrieve_instrument_ identifier_status | Current status of the tokenized PAN. Possible values: <ul style="list-style-type: none"> ■ 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) |
| pay_subscription_ retrieve_instrument_ identifier_successor_id | 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) |
| pay_subscription_ retrieve_latest_card_ expmo | Expiration month of the most recent card number represented by the network token. | Retrieve | String (2) |
| pay_subscription_ retrieve_latest_card_expyr | Expiration year of the most recent card number represented by the network token. | Retrieve | String (4) |
| pay_subscription_ retrieve_latest_card_suffix | Suffix of the most recent card number represented by the network token. | Retrieve | String (4) |
| pay_subscription_ retrieve_merchant_ defined_data1 to pay_ subscription_retrieve_ merchant_defined_data4 | Non-PII data that was stored in the customer token. | Retrieve | String (255) |
| pay_subscription_ retrieve_merchant_ secure_data1 to pay_ subscription_retrieve_ merchant_secure_data4 | Data that was encrypted and stored in the customer token. | Retrieve | String (2071) |

Table 8 Reply Fields (Continued)

| Field Name | Description | Returned by | Data Type & Length |
|--|--|-------------|--------------------|
| pay_subscription_ retrieve_payment_method | Method of payment. Possible values: <ul style="list-style-type: none"> ■ credit card ■ echeck | Retrieve | String (20) |
| pay_subscription_ retrieve_rcode | One-digit code that indicates whether the retrieve service request was successful. Possible values: <ul style="list-style-type: none"> ■ -1: An error occurred ■ 0: The request was declined ■ 1: The request was successful | Retrieve | Integer (1) |
| pay_subscription_ retrieve_rflag | One-word description of the result of the specific service request. See "Reply Flags," page 55 . | Retrieve | String (50) |
| pay_subscription_ retrieve_rmsg | Message that explains the reply flag pay_subscription_retrieve_rflag . See "Reply Flags," page 55 . | Retrieve | String (255) |
| pay_subscription_ retrieve_ship_to_address1 | First line of the shipping address. | Retrieve | String (60) |
| pay_subscription_ retrieve_ship_to_address2 | Second line of the shipping address. | Retrieve | String (60) |
| pay_subscription_ retrieve_ship_to_city | City of the shipping address. | Retrieve | String (50) |
| pay_subscription_ retrieve_ship_to_company_name | Name of the company that is receiving the product. | Retrieve | String (60) |
| pay_subscription_ retrieve_ship_to_country | Country code for the shipping address. For possible values, see the ISO Standard Country Codes . | Retrieve | String (2) |
| pay_subscription_ retrieve_ship_to_firstname | First name of the person receiving the product. | Retrieve | String (60) |
| pay_subscription_ retrieve_ship_to_lastname | Last name of the person receiving the product. | Retrieve | String (60) |
| pay_subscription_ retrieve_ship_to_state | 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) |

Table 8 Reply Fields (Continued)

| Field Name | Description | Returned by | Data Type & Length |
|---|---|-------------|--------------------|
| pay_subscription_ retrieve_ship_to_zip | <p>Postal code for the billing address. The postal code must consist of 5 to 9 digits.</p> <p>When the billing country is the U.S., the 9-digit postal code must follow this format: [5 digits][dash][4 digits]</p> <p>Example 12345-6789</p> <p>When the billing country is Canada, the 6-digit postal code must follow this format: [alpha][numeric][alpha][space] [numeric][alpha][numeric]</p> <p>Example A1B 2C3</p> | Retrieve | String (10) |
| pay_subscription_ retrieve_status | <p>Current status of the tokenized PAN. Possible values:</p> <ul style="list-style-type: none"> ■ 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) |
| pay_subscription_ retrieve_subscription_id | Identifier for the retrieved token. | Retrieve | String (32) |
| pay_subscription_update_ identifier_successor_id | <p>Value for the updated instrument identifier token assigned to the tokenized PAN.</p> <p>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.</p> | Update | String (32) |
| pay_subscription_update_ instrument_identifier_id | Value for the instrument identifier token assigned to the tokenized PAN. | Update | String (32) |
| pay_subscription_update_ instrument_identifier_new | <p>Indicates whether this is the first time the customer's PAN has been tokenized for the merchant.</p> <p>Possible values:</p> <ul style="list-style-type: none"> ■ Y: This is the first time Cybersource has tokenized the PAN and assigned an instrument identifier. ■ N: Cybersource had previously tokenized the PAN 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 (1) |

Table 8 Reply Fields (Continued)

| Field Name | Description | Returned by | Data Type & Length |
|--|--|--|--------------------|
| pay_subscription_update_instrument_identifier_status | Current status of the tokenized PAN. Possible values: <ul style="list-style-type: none"> ■ <i>Active</i> ■ <i>Closed</i>: 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) |
| pay_subscription_update_rcode | One-digit code that indicates whether the specific service request is successful. Possible values: <ul style="list-style-type: none"> ■ -1: An error occurred ■ 0: The request was declined ■ 1: The request was successful | Update | Integer (1) |
| pay_subscription_update_rflag | One-word description of the result of the specific service request. See "Reply Flags," page 55 . | Update | String (50) |
| pay_subscription_update_rmsg | Message that explains the reply flag pay_subscription_update_rflag . Do not display this message to the customer, and do not use this field to write an error handler. | Update | String (255) |
| pay_subscription_update_subscription_id | Identifier for the updated token. | Update | String (32) |
| payment_account_reference | 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. | Retrieve (For COF network token only.) | String (32) |
| request_id | Identifier for the request. | All services | String (26) |
| 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. | All services | String (256) |

Examples

Example 3 Request: Create a Customer Token

```
customer_firstname=Jane
customer_lastname=Smith
bill_address1=123 Main Street
bill_city=Small Town
bill_state=ca
bill_zip=98765
bill_country=us
customer_phone=987-654-3210
customer_email=jsmith@example.com
ship_to_firstname=Jane
ship_to_lastname=Smith
ship_to_address1=123 Main Street
ship_to_city=Small Town
ship_to_state=CA
ship_to_zip=98765
ship_to_country=US
ship_to_company=Small Business
currency=USD
customer_cc_number=411111111111xxxx
customer_cc_expmo=01
customer_cc_expyr=20
card_type=001
merchant_defined_data1=defined data text 1
merchant_defined_data2=defined data text 2
merchant_defined_data3=defined data text 3
merchant_defined_data3=defined data text 4
merchant_secure_data1=secure data text 1
merchant_secure_data2=secure data text 2
merchant_secure_data3=secure data text 3
merchant_secure_data3=secure data text 4
merchant_id=mid1234
merchant_ref_number=ref9876
recurring_frequency=on-demand
ics_applications=ics_pay_subscription_create
```

Example 4 Reply: Create a Customer Token

```

ics_rmsg=Request was processed successfully.
ics_rflag=SOK
ics_rcode=1
request_id=4889877812726625901540
pay_subscription_create_rmsg=Request was processed successfully.
pay_subscription_create_rcode=1
pay_subscription_create_rflag=SOK
pay_subscription_create_instrument_identifier_new=Y
pay_subscription_create_subscription_id=554FDB92B1DAD8F9E0539599D30A3100
pay_subscription_create_instrument_identifier_id=7040000000000181111
pay_subscription_create_instrument_identifier_status=Active
merchant_ref_number=ref9876

```

Example 5 Request: Authorize and Create Customer Token

```

customer_firstname=Jane
customer_lastname=Smith
bill_address1=123 Main Street
bill_city=Small Town
bill_state=CA
bill_zip=98765
bill_country=US
customer_phone=987-654-3210
customer_email=jsmith@example.com
ship_to_firstname=Jane
ship_to_lastname=Smith
ship_to_address1=123 Main Street
ship_to_city=Small Town
ship_to_state=ca
ship_to_zip=98765
ship_to_country=us
currency=usd
customer_cc_number=411111111111xxxx
customer_cc_expmo=01
customer_cc_expyr=20
card_type=001
merchant_defined_data1=defined data text 1
merchant_defined_data2=defined data text 2
merchant_defined_data3=defined data text 3
merchant_defined_data4=defined data text 4
merchant_secure_data1=secure data text 1
merchant_secure_data2=secure data text 2
merchant_secure_data3=secure data text 3
merchant_secure_data4=secure data text 4
merchant_id=mid1234
merchant_ref_number=ref9876
recurring_frequency=on-demand
grand_total_amount=10.00
ics_applications=ics_auth,ics_pay_subscription_create

```

Example 6 Reply: Authorize and Create a Customer Token

```
auth_auth_amount=10.00
auth_auth_avs=1
auth_auth_code=831000
auth_auth_response=00
auth_trans_ref_no=40368790XuwiGomX
auth_rcode=1
auth_rflag=SOK
auth_rmsg=Request was processed successfully.
currency=usd
ics_rcode=1
ics_rflag=SOK
ics_rmsg=Request was processed successfully.
merchant_ref_number=ref9876
pay_subscription_create_instrument_identifier_id=7040000000000181111
pay_subscription_create_instrument_identifier_status=active
pay_subscription_create_instrument_identifier_new=Y
pay_subscription_create_rcode=1
pay_subscription_create_rflag=SOK
pay_subscription_create_rmsg=Request was processed successfully.
pay_subscription_create_subscription_id=554FDB92B1DAD8F9E0539599D30A3100
request_id=4733322354176707701545
```

Example 7 Request: Create a COF Network Token

```
customer_firstname=Jane
customer_lastname=Smith
bill_address1=123 Main Street
bill_city=Small Town
bill_state=ca
bill_zip=98765
bill_country=us
customer_phone=987-654-3210
customer_email=jsmith@example.com
ship_to_firstname=Jane
ship_to_lastname=Smith
ship_to_address1=123 Main Street
ship_to_city=Small Town
ship_to_state=CA
ship_to_zip=98765
ship_to_country=US
ship_to_company=Small Business
currency=USD
customer_cc_number=411111111111xxxx
customer_cc_cv_number=999
customer_cc_expmo=07
customer_cc_expyr=2020
card_type=001
merchant_id=mid1234
merchant_ref_number=ref9876
recurring_frequency=on-demand
ics_applications=ics_pay_subscription_create
```

Example 8 Reply: Create a COF Network Token

```
ics_rmsg=Request was processed successfully.  
ics_rflag=SOK  
ics_rcode=1  
request_id=4889877812726625901540  
pay_subscription_create_rmsg=Request was processed successfully.  
pay_subscription_create_rcode=1  
pay_subscription_create_rflag=SOK  
pay_subscription_create_instrument_identifier_new=Y  
pay_subscription_create_subscription_id=554FDB92B1DAD8F9E0539599D30A3100  
pay_subscription_create_instrument_identifier_id=7040000000000181111  
pay_subscription_create_instrument_identifier_status=Active  
merchant_ref_number=ref9876
```

Example 9 Request: Retrieve a Customer Token

```
merchant_id=mid1234  
merchant_ref_number=ref123  
subscription_id=554FDB92B1DAD8F9E0539599D30A3100  
ics_applications=ics_pay_subscription_retrieve
```

Example 10 Reply: Retrieve a Customer Token

```

ics_rcode=1
ics_rflag=SOK
ics_rmsg=Request was processed successfully.
merchant_ref_number=ref9876
pay_subscription_retrieve_latest_card_expmo=07
pay_subscription_retrieve_latest_card_expyr=2020
pay_subscription_retrieve_latest_card_suffix=1234
pay_subscription_retrieve_bill_address1=123 Main Street
pay_subscription_retrieve_bill_city=Small Town
pay_subscription_retrieve_bill_country=US
pay_subscription_retrieve_bill_state=CA
pay_subscription_retrieve_bill_zip=98765
pay_subscription_retrieve_card_type=003
pay_subscription_retrieve_currency=usd
pay_subscription_retrieve_customer_cc_expmo=02
pay_subscription_retrieve_customer_cc_expyr=2021
pay_subscription_retrieve_customer_cc_number=411111111111xxxx
pay_subscription_retrieve_customer_cc_issue_number=1
pay_subscription_retrieve_customer_cc_startmo=02
pay_subscription_retrieve_customer_cc_startyr=2016
pay_subscription_retrieve_customer_email=jsmith@example.com
pay_subscription_retrieve_customer_firstname=Jane
pay_subscription_retrieve_customer_lastname=Smith
pay_subscription_retrieve_customer_phone=987-654-3210
pay_subscription_retrieve_frequency=on-demand
pay_subscription_retrieve_instrument_identifier_id=704000000000181111
pay_subscription_retrieve_instrument_identifier_status=ACTIVE
pay_subscription_retrieve_merchant_defined_data1=defined data text 1
pay_subscription_retrieve_merchant_defined_data2=defined data text 2
pay_subscription_retrieve_merchant_defined_data3=defined data text 3
pay_subscription_retrieve_merchant_defined_data4=defined data text 4
pay_subscription_retrieve_merchant_secure_data1=secure data text 1
pay_subscription_retrieve_merchant_secure_data2=secure data text 2
pay_subscription_retrieve_merchant_secure_data3=secure data text 3
pay_subscription_retrieve_merchant_secure_data4=secure data text 4
pay_subscription_retrieve_payment_method=credit card
pay_subscription_retrieve_rcode=1
pay_subscription_retrieve_ship_to_address1=123 Main Street
pay_subscription_retrieve_ship_to_city=Small Town
pay_subscription_retrieve_ship_to_company_name=TestCompany
pay_subscription_retrieve_ship_to_country=US
pay_subscription_retrieve_ship_to_firstname=Jane
pay_subscription_retrieve_ship_to_lastname=Smith
pay_subscription_retrieve_ship_to_state=CA
pay_subscription_retrieve_ship_to_zip=98765
pay_subscription_retrieve_status=CURRENT
pay_subscription_retrieve_subscription_id=554FDB92B1DAD8F9E0539599D30A3100
payment_account_reference=987654321234567890987654321234567
request_id=5011721988216895701540

```

Example 11 Request: Update Merchant-Defined Data for a Customer Token

```
customer_firstname=Jane
customer_lastname=Smith
bill_address1=123 Main Street
bill_city=Small Town
bill_state=CA
bill_zip=98765
bill_country=US
customer_phone=987-654-3210
customer_email=jsmith@example.com
ship_to_firstname=Jane
ship_to_lastname=Smith
ship_to_address1=123 Main Street
ship_to_city=Small Town
ship_to_state=CA
ship_to_zip=98765
ship_to_country=US
ship_to_company=Small Business
currency=usd
customer_cc_number=411111111111xxxx
customer_cc_expmo=01
customer_cc_expyr=20
card_type=001
merchant_defined_data1=updated defined data text 1
merchant_defined_data2=updated defined data text 2
merchant_defined_data3=updated defined data text 3
merchant_defined_data4=updated defined data text 4
merchant_secure_data1=updated secure data text 1
merchant_secure_data2=updated secure data text 2
merchant_secure_data3=updated secure data text 3
merchant_secure_data4=updated secure data text 4
merchant_id=mid1234
merchant_ref_number=ref9876
subscription_id=554FDB92B1DAD8F9E0539599D30A3100
ics_applications=ics_pay_subscription_update
```

Example 12 Reply: Update Merchant-Defined Data for a Customer Token

```
ics_rcode=1
ics_rmsg=Request was processed successfully.
ics_rflag=SOK
request_id=4889882115236626401540
pay_subscription_update_instrument_identifier_id=704000000000181112
pay_subscription_update_instrument_identifier_new=Y
pay_subscription_update_instrument_identifier_status=ACTIVE
pay_subscription_update_rcode=1
pay_subscription_update_rflag=SOK
pay_subscription_update_rmsg=Request was processed successfully.
pay_subscription_update_subscription_id=554FDB92B1DAD8F9E0539599D30A3100
merchant_ref_number=ref9876
```

Example 13 Request: Delete a Customer Token

```
merchant_id=mid1234
merchant_ref_number=ref9876
subscription_id=554FDB92B1DAD8F9E0539599D30A3100
ics_applications=ics_pay_subscription_delete
```

Example 14 Reply: Delete a Customer Token

```
ics_rcode=1
ics_rmsg=Request was processed successfully.
ics_rflag=SOK
request_id=4889882505146626501540
pay_subscription_delete_rcode=1
pay_subscription_delete_rflag=SOK
pay_subscription_delete_rmsg=Request was processed successfully.
pay_subscription_delete_subscription_
id=554FDB92B1DAD8F9E0539599D30A3100
pay_subscription_delete_instrument_identifier_id=704000000000181112
merchant_ref_number=ref9876
```

Card Types

The following table lists the card type values to use in **ics_pay_subscription_create** and **ics_pay_subscription_update** requests. To see which cards can be handled by each processor, see ["Supported Processors and Payment Methods," page 12](#).

Table 9 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 <i>Global Collect</i> . |
| 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 <i>Global Collect</i> . |
| 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 <i>Global Collect</i> . |
| 034 | Dankort |
| 036 | Cartes Bancaires |
| 037 | Carta Si |

Table 9 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 |

Reply Flags

The following table describes the reply flags returned by the SCMP API for TMS. See [Getting Started with Cybersource Advanced for the SCMP API](#) for a discussion of replies and reply flags.



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 10 **Reply Flags**

| Reply Flag | Description |
|---------------|--|
| DINVALIDCARD | The credit card number is either missing or invalid. |
| DINVALIDDATA | The request data did not pass the required fields check for this application: <i><field name></i> Possible reason: Invalid field included in the service request. |
| DMISSINGFIELD | Required field is null: <i><field name></i> Possible reason: Missing value in the required API field. |
| DMISSINGFIELD | The request data did not pass the required fields check for this application: <i><field name></i> Possible reason: Invalid field included in the service request. |
| ESYSTEM | A system error has been encountered: Requested service is forbidden. Please contact customer support. Possible reason: The Token Management Service (TMS) profile is not enabled. |

Table 10 Reply Flags (Continued)

| Reply Flag | Description |
|------------|---|
| ESYSTEM | <p>A system error has been encountered. This field is invalid or missing: <i><field name></i>. Please contact Customer Support.</p> <p>Possible reasons:</p> <ul style="list-style-type: none"> ■ 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. |
| ESYSTEM | <p>Error occurred during communication with token service. Please contact customer support.</p> <p>Possible reason: The TMS system is not responding.</p> |
| SOK | Transaction was successful. |