

CyberSource Payer Authentication

Using the Simple Order API

May 2018



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

Copyright

© 2018 CyberSource Corporation. All rights reserved. CyberSource Corporation ("CyberSource") furnishes this document and the software described in this document under the applicable agreement between the reader of this document ("You") and CyberSource ("Agreement"). You may use this document and/or software only in accordance with the terms of the Agreement. Except as expressly set forth in the Agreement, the information contained in this document is subject to change without notice and therefore should not be interpreted in any way as a guarantee or warranty by CyberSource. CyberSource assumes no responsibility or liability for any errors that may appear in this document. The copyrighted software that accompanies this document is licensed to You for use only in strict accordance with the Agreement. You should read the Agreement carefully before using the software. Except as permitted by the Agreement, You may not reproduce any part of this document, store this document in a retrieval system, or transmit this document, in any form or by any means, electronic, mechanical, recording, or otherwise, without the prior written consent of CyberSource.

Restricted Rights Legends

For Government or defense agencies. Use, duplication, or disclosure by the Government or defense agencies is subject to restrictions as set forth the Rights in Technical Data and Computer Software clause at DFARS 252.227-7013 and in similar clauses in the FAR and NASA FAR Supplement.

For civilian agencies. Use, reproduction, or disclosure is subject to restrictions set forth in subparagraphs (a) through (d) of the Commercial Computer Software Restricted Rights clause at 52.227-19 and the limitations set forth in CyberSource Corporation's standard commercial agreement for this software. Unpublished rights reserved under the copyright laws of the United States.

Trademarks

Authorize.Net, eCheck.Net, and The Power of Payment are registered trademarks of CyberSource Corporation.

CyberSource, CyberSource Payment Manager, CyberSource Risk Manager, CyberSource Decision Manager, and CyberSource Connect are trademarks and/or service marks of CyberSource Corporation.

All other brands and product names are trademarks or registered trademarks of their respective owners.

Contents

Recent Revisions to This Document 7

About This Guide 9

Audience and Purpose 9

Scope 9

Conventions 10

Note, Important, and Warning Statements 10

Text and Command Conventions 10

Related Documents 11

Customer Support 11

Chapter 1 **Introducing Payer Authentication** 12

Overview of Chargeback Protection 12

3D Secure 2.0 13

Payer Authentication Process (Standard) 13

Prerequisites for Implementing Payer Authentication 14

Required Merchant Information 14

Chapter 2 **Integrating Payer Authentication into Your Business** 15

Process Overview 15

Implementing Payer Authentication 16

Before You Begin 16

Credentials/API Keys 16

Integration 16

Create the JWT 16

Add the JavaScript 17

BIN Detection 17

Implementing Standard Payer Authentication 17

Starting Authentication 17

Requesting the Check Enrollment Service (Standard) 19

	Implementing Hybrid Payer Authentication	21
	Requesting the Check Enrollment Service (Hybrid)	21
	Authenticating Enrolled Cards	22
	Requesting the Validation Service	23
	Implementing Payer Authentication with an SDK	25
<hr/>		
Chapter 3	Testing Payer Authentication Services	26
	Testing Process	26
	Enrollment Check	26
	Authentication Validation	29
	Expected Results	30
	Test Cases	32
	Verified by Visa	32
	Mastercard SecureCode	41
	Maestro SecureCode	50
	American Express SafeKey	55
	JCB J/Secure	61
	Diners Club ProtectBuy	67
	Discover ProtectBuy	73
	Test Cases for 3D Secure 2.0	79
	Verified by Visa	79
	Mastercard SecureCode	87
	American Express SafeKey	95
	Discover ProtectBuy	103
<hr/>		
Appendix A	API Fields	111
	Formatting Restrictions	111
	Data Type Definitions	111
	Numbered Elements	112
	Request Fields	113
	Reply Fields	130
<hr/>		
Appendix B	Reason Codes	142

Appendix C	Request and Reply Examples	143
	Standard Integration Examples	143
	Check Enrollment Request Example	143
	Check Enrollment Reply Examples	144
	Hybrid Integration Examples	145
	Check Enrollment Request Example	145
	Check Enrollment Reply Example	146
	Validate Authentication Request Example	147
	Validate Authentication Reply Example	148

Appendix D	Web Site Modification Reference	149
	Web Site Modification Checklist	149
	3D Secure Services Logos	150
	Informational Message Examples	151

Appendix E	Payer Authentication Transaction Details in the Business Center	152
	Searching for Payer Authentication Details	152
	Enrolled Card	152
	Enrollment Check	152
	Authentication Validation	158
	Card Not Enrolled	159
	Payer Authentication Details	159
	Transaction Details	161
	Payer Authentication Search	162
	Storing Payer Authentication Data	163

Appendix F	Payer Authentication Reports	164
	Payer Authentication Summary Report	164
	Downloading the Report	165
	Matching the Report to the Transaction Search Results	166
	Interpreting the Report	167
	Comparing Payer Authentication and Payment Reports	168

Payer Authentication Detail Report	169
Report	170
<Result>	170
<PayerAuthDetail>	170
<ProofXML>	172
<VEReq>	173
<VERes>	174
<PAREq>	175
<PAREs>	176
<AuthInfo>	178
Examples	179
Failed Enrollment Check	179
Successful Authentication	180

Appendix G Rules-Based Payer Authentication 181

Available Rules	181
API Replies	182
Bypassed Authentication Transactions	182
Risk-Based Bank Transactions	183

Glossary 184

Index 191

Recent Revisions to This Document

Release	Changes
May 2018	<ul style="list-style-type: none"> Updated the ECI from 1 to 0 in Figure 4, Authentication Path for Mastercard and Maestro, for instances where VERes Enrolled or PAREsStatus equals U or N. See "Expected Results," page 30. Updated the e-commerce indicator in Table 9, "Possible Values for Mastercard and Maestro SecureCode Reply Fields," for Failure result from <code>spa</code> to <code>internet</code>. See "Verified by Visa," page 32. Updated <code>ucafCollectionIndicator</code> in Table 9, "Possible Values for Mastercard and Maestro SecureCode Reply Fields," for authentication not completed result from 1 to 0. Added result for recorded attempt to authenticate to Table 9, "Possible Values for Mastercard and Maestro SecureCode Reply Fields." Updated the e-commerce indicator for Test Case 19, Mastercard SecureCode Card Enrolled: Incomplete Authentication, from <code>spa</code> to <code>internet</code>. See "Mastercard SecureCode," page 41. Updated the collection indicator for Test Case 23, Mastercard SecureCode Card Enrolled: Authentication Error, from 1 to 0. See "Mastercard SecureCode," page 41. Updated the collection indicator for Test Case 24, Mastercard SecureCode Enrollment Check Time-Out, from 1 to 0. See "Mastercard SecureCode," page 41. Updated the collection indicator for Test Case 36, Maestro SecureCode Card Enrolled: Authentication Error, from 1 to 0. See "Maestro SecureCode," page 50. Updated 3D Secure 2.0 test cases. See "Test Cases for 3D Secure 2.0," page 79. Updated Appendix C, "Request and Reply Examples," on page 143. Added recorded attempt to authenticate interpretation for Mastercard and Maestro to Table 18, "Payer Authentication Report Interpretation."
April 2018	<ul style="list-style-type: none"> Updated the introduction chapter for 3D Secure 2.0. See "Introducing Payer Authentication," page 12. Updated the integration process for 3D Secure 2.0. See Chapter 2, "Integrating Payer Authentication into Your Business," on page 15. Added API fields for 3D Secure 2.0. See Appendix A, "API Fields," on page 111. Added new 3D Secure 2.0 examples. See Appendix C, "Request and Reply Examples," on page 143.

Release	Changes
January 2018	<ul style="list-style-type: none"> ■ Added information about the CyberSource APIs to the CyberSource web site. See the CyberSource API Versions page. ■ Updated ucafCollectionIndicator in Table 9, "Possible Values for Mastercard and Maestro SecureCode Reply Fields," for Failure result from 1 to 0. ■ Updated the collection indicator for Test Case 33, Maestro SecureCode Card Enrolled: Incomplete Authentication, and Test Case 35, Maestro SecureCode Card Enrolled: Unavailable Authentication from 1 to 0. See "Test Cases," page 32. ■ Added "Numbered Elements," page 112. ■ Updated descriptions for the item-level request fields. See "Request Fields," page 113. ■ Added the URL for Discover ProtectBuy logos. See "3D Secure Services Logos," page 150.
October 2017	Added support for Discover cards, including new test cases, and new API fields. See "Discover ProtectBuy," page 73 , and "Request Fields," page 113 .
September 2017	<ul style="list-style-type: none"> ■ Added the payerAuthEnrollService_merchantName request field. ■ Added the following fields to support single message authentication: <ul style="list-style-type: none"> • payerAuthEnrollService_referenceID • payerAuthEnrollReply_authenticationResult • payerAuthEnrollReply_authenticationStatusMessage • payerAuthEnrollReply_cavv • payerAuthEnrollReply_cavvAlgorithm • payerAuthEnrollReply_eciRaw • payerAuthEnrollReply_paresStatus • payerAuthEnrollReply_ucafAuthenticationData
August 2017	<ul style="list-style-type: none"> ■ Updated the collection indicator for Test Case 19, Mastercard SecureCode Card Enrolled: Incomplete Authentication, and Test Case 22, Mastercard SecureCode Card Enrolled: Unavailable Authentication from 1 to 0. See "Test Cases," page 32. ■ Removed Test Case 24, Mastercard SecureCode Card Not Enrolled, and Test Case 38, Maestro SecureCode Card Not Enrolled. See "Test Cases," page 32.

About This Guide

Audience and Purpose

This guide is written for application developers who want to use the CyberSource Simple Order API to integrate Payer Authentication services into their order management system. It describes the tasks you must perform in order to complete this integration.

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

Scope

This guide describes how to use the Simple Order API to integrate payer authentication services with your order management system. It does not describe how to get started using the Simple Order API nor does it explain how to use CyberSource services other than payer authentication. For that information, see ["Related Documents," page 11](#).

Conventions

Note, Important, and Warning Statements



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.

Text and Command Conventions

Convention	Usage
bold	<ul style="list-style-type: none"> Field and service names in text. For example: Include the ics_applications field. Items that you are instructed to act upon. For example: Click Save.
<i>italic</i>	<ul style="list-style-type: none"> Filenames and pathnames. For example: Add the filter definition and mapping to your <i>web.xml</i> file. Placeholder variables for which you supply particular values.
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 davService_run field to <code>true</code>.

Related Documents

- *Getting Started with CyberSource Advanced for the Simple Order API* describes how to get started using the Simple Order API. ([PDF](#) | [HTML](#))
- *Decision Manager Developer Guide Using the Simple Order API* describes how to integrate Decision Manager, a fraud detection service, with your order management system. ([PDF](#) | [HTML](#))
- *Credit Card Services Using the Simple Order API* describes how to integrate CyberSource payment processing services into your business. ([PDF](#) | [HTML](#))
- *Secure Acceptance Web/Mobile Configuration Guide* describes how to create Secure Acceptance Web/Mobile profiles, which enable you to integrate your order management system with the Secure Acceptance Web/Mobile checkout. ([PDF](#) | [HTML](#))
- *Secure Acceptance Silent Order POST Development Guide* describes how to create Secure Acceptance Silent Order POST profiles, which enable you to integrate your order management system with a web site to process transactions. ([PDF](#) | [HTML](#))
- *Reporting Developer Guide* describes how to view and configure Business Center reports. ([PDF](#) | [HTML](#))
- The [CyberSource API Versions page](#) provides information about the CyberSource API versions.

Refer to the Support Center for complete CyberSource technical documentation:

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

Customer Support

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

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

Introducing Payer Authentication

CyberSource Payer Authentication services use JavaScript and the ICS services to provide authentication.

Payer Authentication services enable you to add support to your web store for card authentication services, including Visa Verified by VisaSM, Mastercard[®] and Maestro[®] SecureCode[™] (UK Domestic and international), American Express SafeKeySM, JCB J/Secure[™], Diners Club ProtectBuy, and Discover ProtectBuy.

These card authentication services deter unauthorized card use and protect you from fraudulent chargeback activity referred to as *liability shift*. However, CyberSource Payer Authentication is not a fraud management service, such as Decision Manager with Advanced Fraud Screen. CyberSource recommends that you implement a comprehensive fraud management program in addition to payer authentication services.

You can use payer authentication services with specific payment processors. To find out if your payment processor supports this feature, see the “Payer Authentication” section in *Credit Card Services Using the Simple Order API* ([PDF](#) | [HTML](#)).

Overview of Chargeback Protection

Visa, Mastercard, Maestro, American Express, JCB, Diners Club, and Discover offer chargeback protection if merchants participate in [3D Secure](#) card authentication programs, such as Verified by Visa or Mastercard SecureCode.

Chargebacks occur after a transaction is processed, and how they are handled varies according to the region that issued the card. Payment card company rules might vary over time and across geographical regions. CyberSource recommends that you contact your merchant account provider to find out exactly how to interpret chargeback requirements and which chargeback protections are offered.



Do not use payer authentication services for subscription payments when the cardholder is not present; you cannot receive chargeback protection for these transactions.

3D Secure 2.0

Additional data can be passed in now and will automatically be sent to issuers as they upgrade to 3D Secure 2.0. CyberSource Payer Authentication service is also backward compatible.

Payer Authentication Process (Standard)

This section describes the standard payer authentication process.

- 1 You add the JavaScript tag to your checkout page.
- 2 When the customer places an order on your web site, the JavaScript collects the required data and interacts with the issuer.
- 3 The JavaScript verifies with the bank that the card is enrolled in a 3D Secure card authentication program by using a server to server call.
- 4 If the issuing bank requires authentication, the JavaScript displays the authentication window from the issuing bank.
- 5 If required, the customer enters the authentication information.
- 6 The bank validates the customer credentials and a JWT is returned which the merchant is required to validate server-side for security reasons.
- 7 You request the ICS Enrollment Check service, extracting the processor transaction ID value from the JWT and sending it in the **payerAuthEnrollService_authenticationTransactionID** request field. You receive this information:
 - E-commerce indicator
 - CAVV (Visa, American Express, JCB, Diners Club, and Discover only)
 - AAV (Mastercard only)

Verify that the authentication was successful and continue processing your order.



If the authentication fails, Visa, Mastercard, American Express, JCB, Diners Club, and Discover require that you do not accept the card. Instead, you must ask the customer to use another payment method.

Prerequisites for Implementing Payer Authentication

To use the payer authentication services, you and your developers must be able to complete these tasks:

- Write code to enable a connection to the issuing bank.
- Add JavaScript to your website to facilitate the authentication.
- Add specific data to your API requests to CyberSource.
- Validate the necessary data.
- Provide the additional data to the authorization request.
- Modify your web site to help the customer understand the process.

Required Merchant Information

Before using CyberSource Payer Authentication services in production, you must contact Customer Support to provide information about your company and your acquiring bank so that CyberSource can configure your account to implement these services.

You must provide the information listed in [Table 1](#) to CyberSource before payer authentication services can be enabled:

Table 1 Merchant Information Required for Payer Authentication Services

Information	Description
About your company	<ul style="list-style-type: none"> ■ Your CyberSource merchant ID. ■ URL of your company's web site, for example: http://www.example.com ■ Two-character ISO code for your country.
Bank Information	<ul style="list-style-type: none"> ■ Name of your bank acquirer. ■ Complete name and address of your bank contact, including email address.
Visa, Mastercard, Maestro, American Express, JCB, Diners Club, and Discover Information Acquirer merchant ID	Information provided by your bank acquirer about each payment card company for which you are configured: <ul style="list-style-type: none"> ■ 6-digit BIN numbers. ■ Acquirer merchant ID: merchant ID assigned by your acquirer. ■ All currencies that you are set up to process.

Integrating Payer Authentication into Your Business

This chapter summarizes the process of integrating payer authentication services into your existing business processes. CyberSource Payer Authentication services use CardinalCommerce JavaScript to leverage the authentication. The JavaScript Documentation links in this chapter navigate to the Cardinal site.

Three types of integration are available:

- Standard integration
- Hybrid integration
- SDK integration for your mobile application

CyberSource recommends using the Standard integration.



If you are using tokenization, you must use the Hybrid integration method.

Process Overview

Notify your CyberSource account representative that you want to implement payer authentication (3D Secure). Give them the CyberSource merchant ID that you will use for testing. For more information, see ["Required Merchant Information," page 14](#).

Implementation tasks include:

- Add the JavaScript code to your checkout page
- For each purchase request
 - Build the authentication request
 - Invoke the authentication
 - Handle declines

- Call the following services:
 - **payerAuthEnrollService**: Payer Authentication Enrollment Check
 - **payerAuthValidateService**: Payer Authentication Validation (only for Hybrid integration)
 - **ccAuthService**: Card authorization service
- Use the test cases in [Chapter 3, "Testing Payer Authentication Services,"](#) on page 26 to test your preliminary code and make the appropriate changes. You can change to the test environment by changing the URL in your JavaScript code.
- Ensure that your account is configured for production.

Implementing Payer Authentication

The initial implementation steps are the same for Standard and Hybrid integration.

Before You Begin

Before implementing payer authentication services, your business team must contact your acquirer and CyberSource to begin setting up the service. Your software development team should become familiar with the API fields and technical details of this service.

Credentials/API Keys

For implementation you need API keys to create the JWT (JSON Web Token). For further information, contact CyberSource Customer Support.

Integration

Create the JWT

The Standard and Hybrid integration use JWTs (JSON Web Token) as the method of authentication. To complete this step, see the [JavaScript Documentation](#).

Add the JavaScript

Add Songbird.js to your checkout page and complete the additional steps:

- 1 Configure it:** create the configuration object and pass it to *Cardinal.configure()*.
- 2 Listen for Events:** subscribe to events with *Cardinal.on()* and set up callback functions for:
 - *payments.setupComplete*: this optional event will trigger when the JavaScript has successfully initialized, after calling *Cardinal.setup()*.
 - *payments.validated*: this event will trigger when the transaction has completed.
- 3 Initialize it:** call *Cardinal.setup()* to trigger and pass your JWT to the JavaScript for each transaction.

To complete these steps, see the [JavaScript Documentation](#).

BIN Detection

BIN Detection is required and allows the card-issuing bank's ACS provider to collect additional device data and can help speed up the authentication process. This step occurs prior to authentication and must occur before the *Cardinal.start* event. For further information, see the [JavaScript Documentation](#).

Implementing Standard Payer Authentication

The following section describes the implementation for Standard Payer Authentication.

Starting Authentication

The JavaScript handles the device data collection, initiates the transaction for authentication, displays the authentication window if required, and returns the authentication results.

You initiate this authentication process, usually when the customer clicks the Place Order or Submit Order button, by triggering *Cardinal.start()*. *Cardinal.start()* invokes the authentication and authenticates the customer.

Create an order object to pass to the *Cardinal.start()* event. The more fields you include, the less likely the cardholder will be challenged to provide credentials. See the [JavaScript Documentation](#) for a list of 3D Secure 2.0 fields.

Initiate *Cardinal.start()* before the authorization as shown in [Example 1](#). The second argument of data is a Request Order Object. You can construct this object ahead of time or pass it directly as shown.

Example 1 Cardinal.start with Request Order Object

```
Cardinal.start("cca", {
  OrderDetails: {
    OrderNumber: "1234567890"
  },
  Consumer: {
    Account: {
      AccountNumber: "4000000000001000",
      ExpirationMonth: "01",
      ExpirationYear: "2099"
      ...
      <Other 2.0 required/optional fields>
    }
  }
  ...
});
```

Payments.validated returns the authentication results and response JWT along with the **processor transaction ID** as shown in [Example 2](#).

Example 2 Decoded Response JWT

```
{
  "iss": "MidasNoDVKey",
  "iat": 1496955266,
  "exp": 1496962466,
  "jti": "b75eb632-4196-4330-b55f-41669b4938f5",
  "ConsumerSessionId": "88cac5a7-cfd4-467e-9f1c-5874407e44a4",
  "ReferenceId": "88cac5a7-cfd4-467e-9f1c-5874407e44a4",
  "Payload": {
    "Validated": true,
    "Payment": {
      "Type": "CCA",
      "ProcessorTransactionId": "gNs7EBbClOnmQORKDBt0",
    },
    "ActionCode": "SUCCESS",
    "ErrorNumber": 0,
    "ErrorDescription": "Success"
  }
}
```

Next add logic to your *payments.validated* event to handle specific return values. The field **ActionCode** should be used as the primary transaction status indicator. [Table 2](#) contains the possible values for **ActionCode** and what they indicate.

Table 2 Action Codes

Value	Description
SUCCESS	Authentication was completed successfully. Proceed with authorization.
NOACTION	Authentication was not applicable, but no service-level errors were encountered. Generally this means that you can move on to authorization, but be aware that the transaction may not be eligible for liability shift.
FAILURE	Authentication resulted in a failure; this includes the end user failing authentication.
ERROR	An error was encountered.

[Redirecting Customers to Pass or Fail Message Page](#)

After authentication is complete, redirect the customer to a page containing a success or failure message. You must ensure that all messages that display to customers are accurate, complete, and that they address all possible scenarios for enrolled and nonenrolled cards. For example, if the authentication fails, a message such as the following should be displayed to the customer:

```
Authentication Failed
```

```
Your card issuer cannot authenticate this card. Please select another card
or form of payment to complete your purchase.
```

[Requesting the Check Enrollment Service \(Standard\)](#)

Once the validation is complete, use the Check Enrollment service to obtain the values needed for authorization.

To request the Check Enrollment service, extract the **processor transaction ID** value from the JWT and send it in the **payerAuthEnrollService_authenticationTransactionID** request field. For a list of other fields used when requesting the service, see ["Request Fields," page 113](#).

CyberSource recommends that you request both payer authentication and card authorization services at the same time. When you do so, CyberSource automatically sends the correct information to your payment processor; CyberSource converts the values of these fields to the proper format required by your payment processor:

- **E-commerce indicator:** **payerAuthEnrollReply_commerceIndicator**
- **CAVV:** **payerAuthValidateReply_cavv**
- **AAV:** **payerAuthValidateReply_ucafAuthenticationData**
- **XID:** **payerAuthEnrollReply_xid** and **payerAuthValidateReply_xid**

If you request the services separately, you must manually include the enrollment check result values (Enrollment Check Reply Fields) in the authorization service request (Card Authorization Request Fields). To receive liability shift protection, you must ensure that you pass all pertinent data for the card type and processor into your request. Failure to do so may invalidate your liability shift for that transaction. Include the electronic commerce indicator (ECI), the transaction ID (XID), and the following card-specific information in your authorization request:

- For Visa, American Express, JCB, Diners Club, and Discover include the CAVV (cardholder authentication verification value).
- For Mastercard, include the UCAF (universal cardholder authentication field) and the collection indicator.

Table 3 lists these fields.

Table 3 Enrollment Check and Reply Fields

Identifier	Enrollment Check Reply Field	Card Authorization Request Field
E-commerce indicator	payerAuthEnrollReply_commerceIndicator	ccAuthService_commerceIndicator
CAVV (Visa and American Express only)	PayerAuthEnrollReply_cavv	ccAuthService_cavv
AAV (Mastercard only. Known as UCAF)	payerAuthEnrollReply_ucafAuthenticationData	ucaf_authenticationData
XID	payerAuthEnrollReply_xid	ccAuthService_xid

In most cases, you request card authorization only once for each purchase. However, you must send multiple authorization requests if the original authorization expires before it is captured, which can occur when order fulfillment is split or delayed. In these cases, you must include in subsequent authorization requests the same payer authentication data contained in the original request so that your acquiring bank can track all related requests if a dispute occurs.

Implementing Hybrid Payer Authentication

This section describes the implementation for Hybrid Payer Authentication. Be sure to complete the tasks described in ["Before You Begin," page 16](#) before you proceed with the following section.

Requesting the Check Enrollment Service (Hybrid)

The JavaScript collects the device data, displays the authentication window if required, and returns the authentication results. At this point you request the ICS Enrollment Check service.

For the Hybrid integration, the **payerAuthEnrollService_referenceID** request field is required. For a list of the fields used when requesting the service, see ["Request Fields," page 113](#).

You can use the enrollment check and card authorization services in the same request or in separate requests:

- *Same request:* CyberSource attempts to authorize the card if your customer is not enrolled in a payer authentication program (reason code 100 is returned). In this case, the field values that are required in order to prove that you attempted to check enrollment are passed automatically to the authorization service. If authentication is required, processing automatically stops.
- *Separate requests:* you must manually include the enrollment check result values (Enrollment Check Reply Fields) in the authorization service request (Card Authorization Request Fields).

[Table 4](#) lists these fields:

Table 4 Enrollment Check and Reply Fields

Identifier	Enrollment Check Reply Field	Card Authorization Request Field
E-commerce indicator	payerAuthEnrollReply_commerceIndicator	ccAuthService_commerceIndicator
Collection indicator (Mastercard only)	payerAuthEnrollReply_ucafCollectionIndicator	ucaf_collectionIndicator
Result of the enrollment check for Asia, Middle East, and Africa Gateway	payerAuthEnrollReply_veresEnrolled	ccAuthService_veresEnrolled

Interpreting the Reply

The replies are similar for all card types. See [Appendix C, "Request and Reply Examples," on page 143](#) for examples of enrollment replies.

■ Enrolled Cards

You receive reason code 475 if the customer's card is enrolled in a payer authentication program. When you receive this reply, you can proceed to validate authentication.

■ Cards Not Enrolled

You receive reason code 100 in the following cases:

- When the account number is not enrolled in a payer authentication program. The other services in your request are processed normally.
- When payer authentication is not supported by the card type.

When you receive this reply, you can proceed to card authorization.

Authenticating Enrolled Cards

When you have verified that a customer's card is enrolled in a card authentication program, you must take the URL of the card-issuing bank's [Access Control Server](#) (ACS URL), the [PAREq](#) data, and the **payerAuthEnrollReply_authenticationTransactionID** reply field and include them in the *Cardinal.continue* function in order to proceed with the authentication session as shown in [Example 3](#).

Example 3 Cardinal.continue

```
Cardinal.continue({
    variable acsURL = <acsURL reply field>
    variable paReq = <paReq reply field>
    variable TransactionID = <payerAuthEnrollReply_
        authenticationTransactionID reply field>

});
```

Cardinal.continue displays the authentication window if necessary and automatically redirects the customer's session over to the ACS URL for authentication. The customer's browser displays the authentication window with the option to enter their password.

Receiving the Authentication Results

Next *payments.validated* launches, and returns the authentication results and response JWT along with the **processor transaction ID** as shown in [Example 4](#).

Example 4 Decoded Response JWT

```
{
  "iss": "MidasNoDVKey",
  "iat": 1496955266,
  "exp": 1496962466,
  "jti": "b75eb632-4196-4330-b55f-41669b4938f5",
  "ConsumerSessionId": "88cac5a7-cfd4-467e-9f1c-5874407e44a4",
  "ReferenceId": "88cac5a7-cfd4-467e-9f1c-5874407e44a4",
  "Payload": {
    "Validated": true,
    "Payment": {
      "Type": "CCA",
      "ProcessorTransactionId": "gNs7EBbClOnmQORKDBt0",
    },
    "ActionCode": "SUCCESS",
    "ErrorNumber": 0,
    "ErrorDescription": "Success"
  }
}
```

Requesting the Validation Service

For enrolled cards, the next step is to request the validation service. When you make the validation request, you must:

- Send the **payerAuthValidateService_authenticationTransactionID** request field
- Send the credit card information including the PAN, currency, and expiration date (month and year).

The reply that you receive contains the validation result.

CyberSource recommends that you request both payer authentication and card authorization services at the same time. When you do so, CyberSource automatically sends the correct information to your payment processor; CyberSource converts the values of these fields to the proper format required by your payment processor:

- **E-commerce indicator:** **payerAuthEnrollReply_commerceIndicator**
- **CAVV:** **payerAuthValidateReply_cavv**
- **AAV:** **payerAuthValidateReply_ucafAuthenticationData**
- **XID:** **payerAuthEnrollReply_xid** and **payerAuthValidateReply_xid**

If you request the services separately, you must manually include the enrollment check result values (Enrollment Check Reply Fields) in the authorization service request (Card Authorization Request Fields). To receive liability shift protection, you must ensure that you pass all pertinent data for the card type and processor into your request. Failure to do so may invalidate your liability shift for that transaction. Include the electronic commerce indicator (ECI), the transaction ID (XID), and the following card-specific information in your authorization request:

- For Visa, American Express, JCB, Diners Club, and Discover include the CAVV (cardholder authentication verification value).
- For Mastercard, include the UCAF (universal cardholder authentication field) and the collection indicator.

Table 5 lists these fields.

Table 5 Enrollment Check and Reply Fields

Identifier	Enrollment Check Reply Field	Card Authorization Request Field
E-commerce indicator	payerAuthEnrollReply_commerceIndicator	ccAuthService_commerceIndicator
CAVV (Visa and American Express only)	PayerAuthEnrollReply_cavv	ccAuthService_cavv
AAV (Mastercard only. Known as UCAF)	payerAuthEnrollReply_ucafAuthenticationData	ucaf_authenticationData
XID	payerAuthEnrollReply_xid	ccAuthService_xid

Interpreting the Reply



Important

If the authentication fails, Visa, American Express, JCB, Diners Club, and Discover require that you do not accept the card. Instead, you must ask the customer to use another payment method.

Proceed with the order according to the validation response that you receive. The replies are similar for all card types:

- *Success:*

You receive the reason code 100, and other service requests, including authorization, are processed normally.

- *Failure:*

You receive reason code 476 indicating that the authentication failed, so the other services in your request are not processed. If you want to process the other services or fraud tools despite the failure, set the request field **businessRules_ignoreValidateResult** to `true`.

- *Error.*

If you receive an error from the payment card company, process the order according to your business rules. If the error occurs frequently, report it to [Customer Support](#). If you receive a CyberSource system error, determine the cause, and proceed with card authorization only if appropriate.

To verify that the enrollment and validation checks are for the same transaction, ensure that the XID in the enrollment check and validation replies are identical.

[Redirecting Customers to Pass or Fail Message Page](#)

After authentication is complete, redirect the customer to a page containing a success or failure message. You must ensure that all messages that display to customers are accurate, complete, and that they address all possible scenarios for enrolled and nonenrolled cards. For example, if the authentication fails, a message such as the following should be displayed to the customer:

```
Authentication Failed
```

```
Your card issuer cannot authenticate this card. Please select another card  
or form of payment to complete your purchase.
```

Implementing Payer Authentication with an SDK

You can also implement Payer Authentication in iOS or Android with an SDK. For more information see the following:

- [JavaScript Documentation for iOS SDK](#)
- [JavaScript Documentation for Android SDK](#)

Contact CyberSource Customer Support for further questions.

Testing Payer Authentication Services

After you have completed the necessary changes to your Web and API integration, verify that all components are working correctly by performing all the tests for the cards that you support. Each test contains the specific input data and the most important results fields that you receive in the API reply.

Testing Process

Use the card number specified in the test with the card's expiration date set to the month of December and the current year plus two. For example, for 2018, use 2020. You also need the minimum required fields for an order.

Enrollment Check

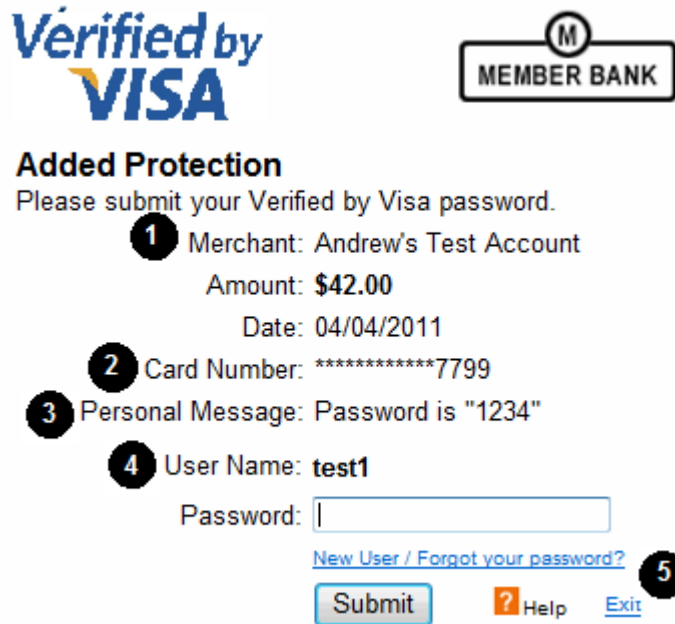
For some of the enrolled cards, an authentication window appears after the enrollment check completes. [Figure 1](#) shows an authentication window for Verified by Visa. The window for Mastercard is similar.

**Note**

To view the authentication window, you must enable your browser to display popup windows.

The test password is always 1234.

Figure 1 Verified by Visa Authentication Window



The image shows a 'Verified by Visa' authentication window. At the top left is the 'Verified by VISA' logo. At the top right is a 'MEMBER BANK' logo with an 'M' in a circle. Below the logo is the heading 'Added Protection' followed by the instruction 'Please submit your Verified by Visa password.' The form contains several fields and buttons, each marked with a numbered circle:

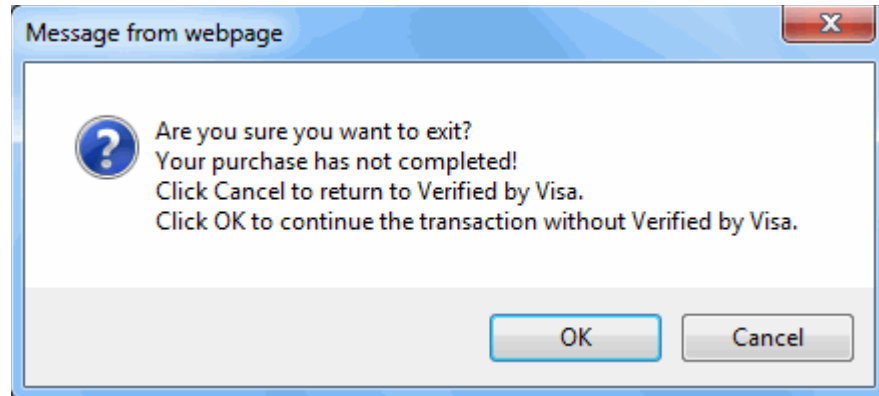
- 1** Merchant: Andrew's Test Account
- Amount: \$42.00
- Date: 04/04/2011
- 2** Card Number: *****7799
- 3** Personal Message: Password is "1234"
- 4** User Name: test1
- Password:
- [New User / Forgot your password?](#)
-
-
- [Exit](#) **5**

- 1** Your merchant ID.
- 2** Last four digits of the card number.
- 3** Password to enter in the text box below.
- 4** Default username for all tests.
- 5** This Exit link enables the customer to prevent the authentication process.

Depending on the user's action, two results are possible:

- If the user submits the password for the enrolled card, you receive the URL of the [Access Control Server](#) (ACS) where the customer can be authenticated.
- If the user clicks the Exit link and clicks OK in the verification window ([Figure 2](#)), authentication does not occur.

Figure 2 Verified by Visa Verification Window



[Table 6](#) lists the reply fields used in the test cases.

Table 6 Reply Fields Used in the Enrollment Check Test Cases

Name Used in Test Cases	API Field
ACS URL	payerAuthEnrollReply_acsURL
E-commerce indicator	payerAuthEnrollReply_commerceIndicator
ECI	payerAuthEnrollReply_eci
PAReq	payerAuthEnrollReply_paReq
proofXML	payerAuthEnrollReply_proofXML
Reason code	payerAuthEnrollReply_reasonCode
VERes enrolled	payerAuthEnrollReply_veresEnrolled
XID	payerAuthEnrollReply_xid

Authentication Validation

Table 7 lists only the reply fields used in the test cases.

Table 7 Reply Fields Used in the Authentication Validation Test Cases

Name Used in Test Cases	API Field
Authentication result	payerAuthValidateReply_authenticationResult
E-commerce indicator	payerAuthValidateReply_commerceIndicator
AAV (Mastercard only)	payerAuthValidateReply_ucafAuthenticationData
CAVV (Visa only)	payerAuthValidateReply_cavv
Collection indicator	payerAuthValidateReply_ucafCollectionIndicator
ECI	payerAuthValidateReply_eci
PAREs status	payerAuthValidateReply_authenticationStatusMessage
Reason code	payerAuthValidateReply_reasonCode
XID	payerAuthValidateReply_xid

Expected Results

These flowcharts summarize the payer authentication process based on the enrollment status of the card and the subsequent customer experience with the authentication path.

Use this information with the test cases to determine how to process orders.

Figure 3 Authentication Path for Visa, American Express, JCB, Diners Club, and Discover

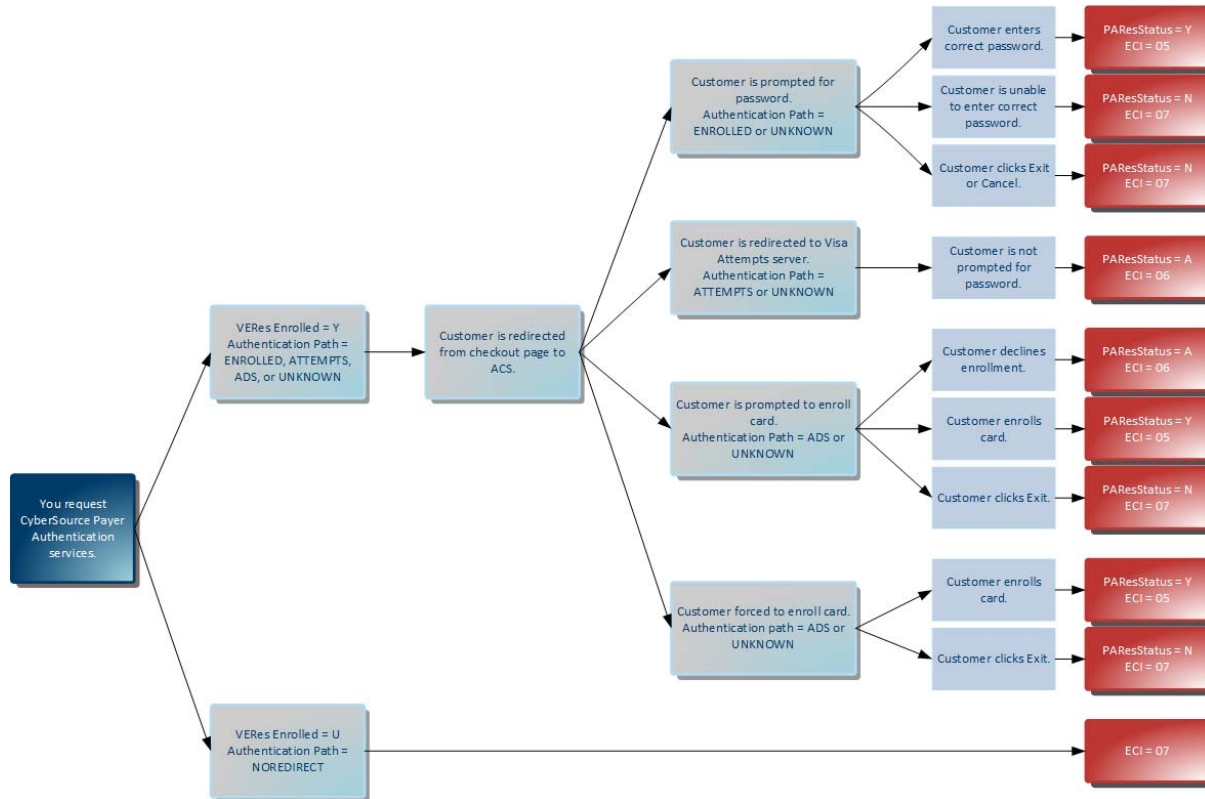
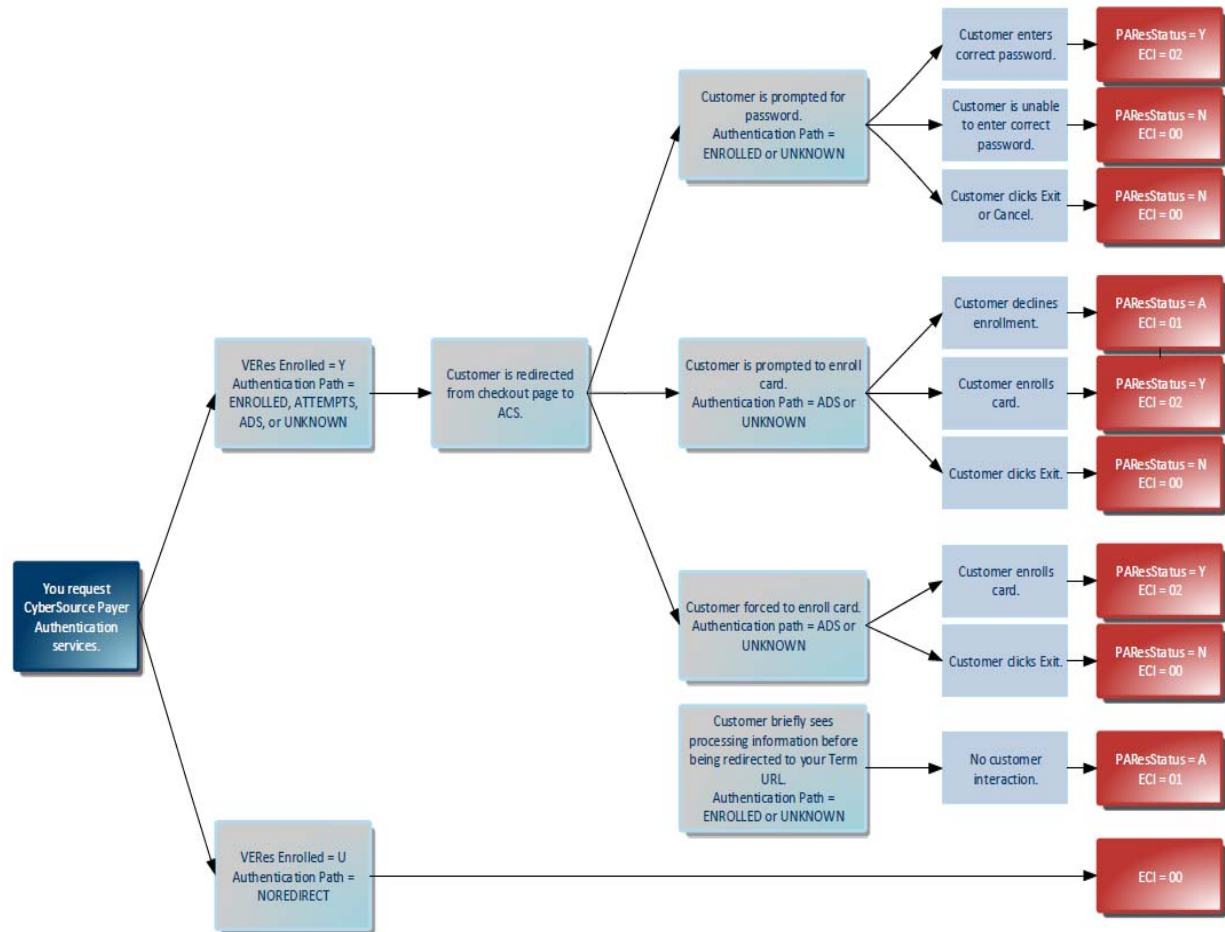


Figure 4 Authentication Path for Mastercard and Maestro

Test Cases

Verified by Visa

You can use Payer Authentication services with 16- and 19-digit Visa cards if they are supported by your processor.

Table 8 Possible Values for Verified by Visa Reply Fields

Result and Interpretation		Validate Authentication Reply			
		Authentication Result	ECI	Commerce Indicator	Reason Code
Success	Successful authentication.	0	05	vbv	100
	Recorded attempt to authenticate.	1	06	vbv_ attempted	100
Failure (Customer not responsible)	System error that prevents the completion of authentication: you can proceed with authorization, but there is no liability shift.	6	1	— ²	100
	Issuer unable to perform authentication.	6	07	internet	100
	No response from the Directory Servers or Issuer because of a problem.		07	internet vbv_failure (processors: AIBMS, Barclays, Streamline, or FDC Germany)	
	Invalid PAREs.	-1	—	—	476
Failure (Customer responsible)	Authentication failed or cardholder did not complete authentication. If the authentication fails, Visa requires that you do not accept the card. You must ask the customer to use another payment method.	9	—	—	476

¹ The ECI value can vary depending on the reason for the failure.

² A dash (—) indicates that the field is blank or absent.


Test Case 1: Verified by Visa Card Enrolled: Successful Authentication

Card Number	4000000000000002 With authentication window 400000000000000022	
	4000000000000119 Without authentication window	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
	Reason code 475	Reason code 100
	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	ACS URL URL	Authentication result 0
	PAReq PAReq value	CAVV CAVV value
	proofXML proofXML value	E-commerce indicator vbv
	VERes enrolled Y	ECI 05
	XID XID value	PARes status Y
		XID XID value
	Action	1 Add the signed PARes to the Validate Authentication request. 2 Ensure that the XID from the enrollment check matches that from the authentication validation. 3 Add the CAVV and ECI values to your authorization request.

Test Case 2: Verified by Visa Card Enrolled: Successful Authentication but Invalid PARes

Card Number	4000000000000010 With authentication window 40000000000000071	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
	Reason code 475	Reason code 476
Summary	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	
	We encountered a payer authentication problem: PARes signature digest value mismatch. PARes message has been modified.	
	ACS URL URL value	Authentication result -1
	PAReq PAReq value	XID XID value
	proofXML proofXML value	
	VERes enrolled Y	
	XID XID value	
Action	Do not proceed with authorization. Instead, ask the customer for another form of payment.	

Test Case 3: Verified by Visa Card Enrolled: Attempts Processing

Card Number	4000000000000101	Without authentication window
	400000000000000063	With authentication window
	40000000000000127	Card enrollment option during purchase process
Auth. Type	Activation during shopping	
Results	Check Enrollment	Validate Authentication
	Summary	
	Reason code 475	Reason code 100
	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	Details	
	ACS URL URL value	Authentication result 1
	PAReq PAReq value	CAVV CAVV value
	proofXML proofXML value	E-commerce indicator vbv_attempted
	VERes enrolled Y	ECI 06
	XID XID value	PARes status A
		XID XID value
Action	<p>If you request Validate Authentication and authorization services separately, follow these steps:</p> <ol style="list-style-type: none"> 1 Add the signed PARes to the Validate Authentication request. 2 Ensure that the XID from the enrollment check matches that from the authentication validation. 3 Add the CAVV and ECI values to your authorization request. <p>If you request the Validate Authentication and authorization services together, the process described above occurs automatically. Test card 4000000000000127 enables you to reproduce the process by which the customer enrolls the card during the purchase. If the card is not enrolled, a card enrollment option windows appears in the customer's browser after the enrollment check. The customer can activate the card at that time or later. In both cases, the card is authenticated, and validation is successful.</p> 	

Test Case 4: Verified by Visa Card Enrolled: Incomplete Authentication

Card Number	40000000000000036 400000000000000055	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ Issuer unable to perform authentication. ■ ics_pa_validate service was successful.
	ACS URL URL value	Authentication result 6
	PAReq PAReq value	E-commerce indicator internet
	proofXML proofXML value	ECI 07
	VERes enrolled Y	PARes status U
	XID XID value	XID XID value
Action	Ask the customer for another form of payment, or submit the transaction. No liability shift.	

Test Case 5: Verified by Visa Card Enrolled: Unsuccessful Authentication

Card Number	40000000000000028 With authentication window 400000000000000048	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated.
	ACS URL URL value	Authentication result 9
	PAReq PAReq value	PARes status N
	proofXML proofXML value	XID XID value
	VERes enrolled Y	
	XID XID value	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 6: Verified by Visa Card Enrolled: Unsuccessful Authentication (Customer Exited)

Card Number	4000008531947799		
Auth. Type	Active authentication		
Results	Check Enrollment		Validate Authentication
Summary	Reason code	475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.		<ul style="list-style-type: none"> Customer prevents authentication. ics_pa_validate service was successful.
	ACS URL	URL value	Authentication result 9
	PAReq	PAReq value	PARes status N
	proofXML	proofXML value	XID XID value
	VERes enrolled	Y	
	XID	XID value	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.		

Test Case 7: Verified by Visa Card Enrolled: Unavailable Authentication

Card Number	40000000000000069 4000000000000000014		
Auth. Type	Active authentication		
Results	Check Enrollment		Validate Authentication
Summary	Reason code	100	
Details	ics_pa_enroll service was successful.		
	E-commerce indicator	internet	
	proofXML	proofXML value	
	VERes enrolled	U	
Action	Submit your authorization request. No liability shift.		

Test Case 8: Verified by Visa Card Enrolled: Authentication Error

Card Number	4000000000000093 40000000000000006	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	
	We encountered a payer authentication problem: Error Processing PAREs.	
	ACS URL URL value	E-commerce indicator internet
	PARReq PARReq value	ECI 07
	proofXML proofXML value	
	VERes enrolled Y	
	XID XID value	
Action	Ask the customer for another form of payment. No liability shift.	

Test Case 9: Verified by Visa Card Not Enrolled

Card Number	4000000000000051 40000000000000030	
Auth. Type	Non-participating bank	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
Details	ics_pa_enroll service was successful.	
	E-commerce indicator vbv_attempted	
	ECI 06	
	proofXML proofXML value	
	VERes enrolled N	
Action	Submit your authorization request. Liability shift.	

Test Case 10: Verified by Visa Enrollment Check: Time-Out

Card Number	4000000000000044	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
	ics_pa_enroll service was successful.	
Details	E-commerce indicator internet	
	proofXML proofXML value	
Action	After 10-12 seconds, proceed with the authorization request. No liability shift.	

Test Case 11: Verified by Visa Enrollment Check Error

Card Number	4000000000000085	Error response
	4000000000000077	Incorrect Configuration: Unable to Authenticate
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
	ics_pa_enroll service was successful.	
Details	E-commerce indicator internet	
	proofXML proofXML value	
	VERes enrolled U	
Action	Proceed with the authorization request, and contact your support representative to resolve the issue. No liability shift. If you requested payer authentication and authorization together, the authorization is processed automatically.	

Test Case 12: Verified by Visa Enrollment RIBA_PASS

Card Number	4000180000000002		
Auth. Type	Passive authentication		
Results	Check Enrollment	Validate Authentication	
Summary	Reason code 475	Reason code	100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.		ics_pa_validate service was successful.
	ACS URL URL	Authentication result	0
	PARReq PARReq value	CAVV	CAVV value
	proofXML proofXML value	E-commerce indicator	vbv
	VERes enrolled Y	ECI	05
	XID XID value	PARes status	Y
		XID	XID value
Action	1 Add the signed PARes to the Validate Authentication request. 2 Ensure that the XID from the enrollment check matches that from the authentication validation. 3 Add the CAVV and ECI values to your authorization request.		

Test Case 13: Verified by Visa Enrollment RIBA_PASS: Unsuccessful Authentication

Card Number	40001800000000028		
Auth. Type	Passive authentication		
Results	Check Enrollment	Validate Authentication	
Summary	Reason code 475	Reason code	476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.		■ User failed authentication. ■ Payer cannot be authenticated.
	ACS URL URL value	Authentication result	9
	PARReq PARReq value	PARes status	N
	proofXML proofXML value	XID	XID value
	VERes enrolled Y		
	XID XID value		
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.		

Test Case 14: Verified by Visa Enrollment RIBA

Card Number	4000260000000002 With authentication window	
Auth. Type	Risk-based bank	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	ACS URL URL	Authentication result 0
	PAReq PAReq value	CAVV CAVV value
	proofXML proofXML value	E-commerce indicator vbv
	VERes enrolled Y	ECI 05
	XID XID value	PARes status Y
		XID XID value
Action	<ol style="list-style-type: none"> 1 Add the signed PARes to the Validate Authentication request. 2 Ensure that the XID from the enrollment check matches that from the authentication validation. 3 Add the CAVV and ECI values to your authorization request. 	

Test Case 15: Verified by Visa Enrollment RIBA: Unsuccessful Authentication

Card Number	40002600000000028 With authentication window	
Auth. Type	Risk-based bank	
Results	Reason code 475	Reason code 476
Summary	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated.
Details	ACS URL URL value	Authentication result 9
	PAReq PAReq value	PARes status N
	proofXML proofXML value	XID XID value
	VERes enrolled Y	
	XID XID value	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Mastercard SecureCode

Table 9 Possible Values for Mastercard and Maestro SecureCode Reply Fields

Result and Interpretation		payerAuthValidateReply_			
		authentication Result	ucafCollection Indicator	commerce Indicator	reason Code
Success	Successful authentication.	0	2	spa	100
	Recorded attempt to authenticate.	1	1	spa	100
	Authentication not completed.	1	0	spa	100
Failure (Customer not responsible)	System error (Issuer unable to perform authentication): you cannot authorize this card; no liability shift.	6	0	internet	100
	Invalid PAREs.	-1	0		476
Failure (Customer responsible)	Authentication failed or cardholder did not complete authentication.	9	0	–	476

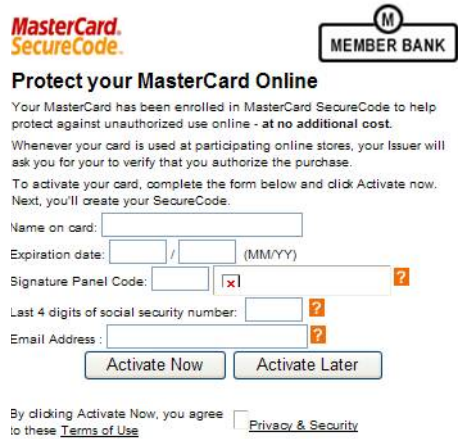
Test Case 16: Mastercard SecureCode Card Enrolled: Successful Authentication

Card Number	5200000000000007 5200000000000114	With authentication window Without authentication window
Auth. Type	Active authentication	
Results Summary Details	Check Enrollment	Validate Authentication
	Reason code 475	Reason code 100
	The card is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	ACS URL URL	Authentication result 0
	PAReq PAReq value	AAV AAV value
	proofXML proofXML value	Collection indicator 2
	VERes enrolled Y	E-commerce indicator spa
	XID XID value	PAREs status Y
		XID XID value
	Action	1 Add the signed PAREs to the Validate Authentication request. 2 Ensure that the XID from the enrollment check matches that from the authentication validation. 3 Add the required payer authentication values to your authorization request.

Test Case 17: Mastercard SecureCode Card Enrolled: Successful Authentication but Invalid PAREs

Card Number	5200000000000015 With authentication window	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	Payer authentication problem: PAREs signature digest value mismatch. PAREs message has been modified.
	ACS URL URL	Authentication result -1
	PARReq PARReq value	XID XID value
	proofXML proofXML value	
	VERes enrolled Y	
	XID XID value	
Action	Do not process the authorization request. Instead ask the customer for another form of payment.	

Test Case 18: Mastercard SecureCode Card Enrolled: Attempts Processing

Card Number	5200000000000122 Card enrollment option during purchase process 5200000000000106	
Auth. Type	Activation during shopping	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	
	ACS URL URL	Authentication result 1
	PAReq PAReq value	AAV AAV value
	proofXML proofXML value	Collection indicator 1
	VERes enrolled Y	E-commerce indicator spa
	XID XID value	PARes status A
		XID XID value
Action	<p>This test card enables you to reproduce the process by which the customer enrolls the card during the purchase. If the card is not enrolled, a card enrollment option windows appears in the customer's browser after the enrollment check. The customer can activate the card at that time or later. In both cases, the card is authenticated, and validation is successful.</p> <ol style="list-style-type: none"> 1 Add the signed PARes to the validation request. 2 In the reply, ensure that the XID from the enrollment check matches that from the validation. 3 Add the required payer authentication values to your authorization request. 	

Test Case 19: Mastercard SecureCode Card Enrolled: Incomplete Authentication

Card Number	5200000000000031 Without authentication window	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ ics_pa_validate service was successful. ■ Issuer unable to perform authentication.
	ACS URL URL value	Authentication result 6
	PAReq PAReq value	Collection indicator 0
	proofXML proofXML value	E-commerce indicator internet
	VERes enrolled Y	PARes status U
	XID XID value	XID XID value
Action	Ask the customer for another form of payment, or submit the transaction. No liability shift.	

Test Case 20: Mastercard SecureCode Card Enrolled: Unsuccessful Authentication

Card Number	5200000000000023 With authentication window	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ User failed authentication ■ Payer could not be authenticated.
	ACS URL URL value	Authentication result 9
	PAReq PAReq value	PARes status N
	proofXML proofXML value	
	VERes enrolled Y	XID XID value
	XID XID value	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 21: Mastercard SecureCode Card Enrolled: Unsuccessful Authentication (Customer Exited)

Card Number	5641821000010028	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> Customer prevents authentication. ics_pa_validate service was successful.
	ACS URL URL value	Authentication result 9
	PAReq PAReq value	PARes status N
	proofXML proofXML value	XID XID value
	VERes enrolled Y	
	XID XID value	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 22: Mastercard SecureCode Card Enrolled: Unavailable Authentication

Card Number	5200000000000064	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
Details	ics_pa_enroll service was successful.	
	Collection indicator 0	
	E-commerce indicator spa	
	proofXML proofXML value	
	VERes enrolled U	
Action	Submit the transaction. No liability shift.	

Test Case 23: Mastercard SecureCode Card Enrolled: Authentication Error

Card Number	5200000000000098 Without authentication window	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	We encountered a payer authentication problem: Error Processing PAREs.
	ACS URL URL value	Collection indicator 0
	PAReq PAReq value	E-commerce indicator internet
	proofXML proofXML value	
	VERes enrolled Y	
	XID XID value	
Action	Ask the customer for another form of payment. No liability shift.	

Test Case 24: Mastercard SecureCode Enrollment Check Time-Out

Card Number	5200000000000049	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
Details	ics_pa_enroll service was successful.	
	Collection indicator 0	
	E-commerce indicator spa	
	proofXML proofXML value	
Action	After 10-12 seconds, proceed with the authorization message. No liability shift.	

Test Case 25: Mastercard SecureCode Enrollment Check Error

Card Number	5200000000000080	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code	100
	ics_pa_enroll service was successful.	
	Collection indicator	0
	E-commerce indicator	internet
	proofXML	proofXML value
	VERes enrolled	U
Action	Proceed with the authorization request, and contact your support representative to resolve the issue. No liability shift. If you requested payer authentication and authorization together, the authorization is processed automatically.	

Test Case 26: Mastercard SecureCode RIBA_PASS

Card Number	5200180000000007	
Auth. Type	Passive authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code	475
	The card is enrolled in payer authentication. Please authenticate before proceeding with authorization.	
	ics_pa_validate service was successful.	
	ACS URL	URL
	PARReq	PARReq value
	proofXML	proofXML value
Details	VERes enrolled	Y
	XID	XID value
	Authentication result	0
	AAV	AAV value
Action	Collection indicator	2
	E-commerce indicator	spa
	PARes status	Y
	XID	XID value
1 Add the signed PARes to the Validate Authentication request. 2 Ensure that the XID from the enrollment check matches that from the authentication validation. 3 Add the required payer authentication values to your authorization request.		

Test Case 27: Mastercard SecureCode RIBA_PASS: Unsuccessful Authentication

Card Number	5200180000000023	
Auth. Type	Passive authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ User failed authentication ■ Payer could not be authenticated.
	ACS URL URL value	Authentication result 9
	PARReq PARReq value	PARes status N
	proofXML proofXML value	
	VERes enrolled Y	XID XID value
	XID XID value	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 28: Mastercard SecureCode RIBA

Card Number	5200260000000007 With authentication window	
Auth. Type	Risk-based bank	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The card is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	ACS URL URL	Authentication result 0
	PARReq PARReq value	AAV AAV value
	proofXML proofXML value	Collection indicator 2
	VERes enrolled Y	E-commerce indicator spa
	XID XID value	PARes status Y
Action		XID XID value
	<ol style="list-style-type: none"> 1 Add the signed PARes to the Validate Authentication request. 2 Ensure that the XID from the enrollment check matches that from the authentication validation. 3 Add the required payer authentication values to your authorization request. 	

Test Case 29: Mastercard SecureCode RIBA: Unsuccessful Authentication

Card Number	5200260000000023 With authentication window	
Auth. Type	Risk-based bank	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ User failed authentication ■ Payer could not be authenticated.
	ACS URL URL value	Authentication result 9
	PAReq PAReq value	PARes status N
	proofXML proofXML value	
	VERes enrolled Y	XID XID value
	XID XID value	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Maestro SecureCode


Test Case 30: Maestro SecureCode Card Enrolled: Successful Authentication

Card Number	6759411100000008	Without authentication window
	6759410000006404	With authentication window
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
	Reason code 475	Reason code 100
Summary	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	
	ics_pa_validate service was successful.	
	ACS URL URL	Authentication result 0
	PAReq PAReq value	AAV AAV value
	proofXML proofXML value	Collection indicator 2
	VERes enrolled Y	E-commerce indicator spa
	XID XID value	PARes status Y
		XID XID value
Action	1 Add the signed PARes to the validation request. 2 In the reply, ensure that the XID from the enrollment check matches that from the validation. 3 Add the required payer authentication values to your authorization request.	

Test Case 31: Maestro SecureCode Card Enrolled: Successful Authentication but Invalid PARes

Card Number	6331101234567892	Without authentication window
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
	Reason code 475	Reason code 476
Summary	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	
	Payer authentication problem: PARes signature digest value mismatch. PARes message has been modified.	
	ACS URL URL	Authentication result -1
	PAReq PAReq value	XID XID value
	proofXML proofXML value	
	VERes enrolled Y	
	XID XID value	
Action	Do not process the authorization request. Instead ask the customer for another form of payment.	

Test Case 32: Maestro SecureCode Card Enrolled: Attempts Processing

Card Number	560000000000000193 Card enrollment option during purchase process	
Auth. Type	Activation during shopping	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	ACS URL URL	Authentication result 1
	PAReq PAReq value	AAV AAV value
	proofXML proofXML value	E-commerce indicator spa
	VERes enrolled Y	PARes status A
	XID XID value	XID XID value
Action	<p>This test card enables you to reproduce the process by which the customer enrolls the card during the purchase. If the card is not enrolled, a card enrollment option windows appears in the customer's browser after the enrollment check. The customer can activate the card at that time or later. In both cases, the card is authenticated, and validation is successful.</p> <ol style="list-style-type: none"> 1 Add the signed PARes to the Validate Authentication request. 2 Ensure that the XID from the enrollment check matches that from the authentication validation. 3 Add the required payer authentication values to your authorization request. 	

Test Case 33: Maestro SecureCode Card Enrolled: Incomplete Authentication

Card Number	6331101250353227 Without authentication window	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	Issuer unable to perform authentication.
Details	ACS URL URL value	Authentication result 6
	PAReq PAReq value	Collection indicator 0
	proofXML proofXML value	E-commerce indicator spa
	VERes enrolled Y	PARes status U
	XID XID value	XID XID value
Action	Ask the customer for another form of payment, or submit the transaction. No liability shift.	

Test Case 34: Maestro SecureCode Card Enrolled: Unsuccessful Authentication

Card Number	6331100610194313 Without authentication window	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	User failed authentication
Details	ACS URL URL value	Authentication result 9
	PAReq PAReq value	PARes status N
	proofXML proofXML value	XID XID value
	VERes enrolled Y	
	XID XID value	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 35: Maestro SecureCode Card Enrolled: Unavailable Authentication

Card Number	6331100266977839	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
	ics_pa_enroll service was successful.	
Details	Collection indicator 0	
	E-commerce indicator spa	
	proofXML proofXML value	
Action	Submit the transaction. No liability shift.	

Test Case 36: Maestro SecureCode Card Enrolled: Authentication Error

Card Number	560000511607577094 Without authentication window	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	We encountered a payer authentication problem: Error Processing PAREs.
Details	ACS URL URL value	Collection indicator 0
	PAReq PAReq value	E-commerce indicator internet
	proofXML proofXML value	
	VERes enrolled Y	
	XID XID value	
Action	Do not request authorization. Instead ask the customer for another form of payment. No liability shift.	

Test Case 37: Maestro SecureCode Enrollment Check Error

Card Number	560000841211092515	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
	ics_pa_enroll service was successful.	
Details	Collection indicator 0	
	E-commerce indicator internet	
	proofXML proofXML value	
	VERes enrolled U	
Action	Proceed with the authorization request, and contact your support representative to resolve the issue. No liability shift. If you requested payer authentication and authorization together, the authorization is processed automatically.	

American Express SafeKey

Table 10 Possible Values for American Express SafeKey Reply Fields

Result and Interpretation		Validate Authentication Reply			
		Authentication Result	ECI	Commerce Indicator	Reason Code
Success	Successful authentication.	0	05	aesk	100
	Recorded attempt to authenticate.	1	06	aesk_ attempted	100
Failure (Customer not responsible)	System error that prevents the completion of authentication: you can proceed with authorization, but there is no liability shift.	6	1	— ²	100
	Issuer unable to perform authentication.	6	07	internet	100
	Incomplete or unavailable authentication.		07	internet	
	Invalid PAREs.	-1	—	—	476
Failure (Customer responsible)	Authentication failed or cardholder did not complete authentication. If the authentication fails, Visa requires that you do not accept the card. You must ask the customer to use another payment method.	9	—	—	476

1 The ECI value can vary depending on the reason for the failure.

2 A dash (—) indicates that the field is blank or absent.

Test Case 38: American Express SafeKey Card Enrolled: Successful Authentication

Card Number	340000000003961	Without authentication window
	371449111020228	With authentication window
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
	Reason code 475	Reason code 100
Summary	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	
	ics_pa_validate service was successful.	
	ACS URL URL value	Authentication result 0
	PAReq PAReq value	CAVV CAVV value
	proofXML proofXML value	E-commerce indicator aesk
	VERes enrolled Y	ECI 05
	XID XID value	PARes status Y
		XID XID value
Action	1 Add the signed PARes to the Validate Authentication request. 2 Ensure that the XID from the enrollment check matches that from the authentication validation. 3 Add the CAVV and ECI values to your authorization request.	

Test Case 39: American Express SafeKey Card Enrolled: Successful Authentication but Invalid PARes

Card Number	340000000006022	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
	Reason code 475	Reason code 476
Summary	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	
	We encountered a payer authentication problem: PARes signature digest value mismatch. PARes message has been modified.	
	ACS URL URL value	Authentication result -1
	PAReq PAReq value	XID XID value
	proofXML proofXML value	
	VERes enrolled Y	
	XID XID value	
Action	Do not proceed with authorization. Instead, ask the customer for another form of payment.	

Test Case 40: American Express SafeKey Card Enrolled: Attempts Processing

Card Number	340000000003391	Without authentication window		
	344400000000569	Card enrollment option during purchase process		
Auth. Type	Activation during shopping			
Results	Check Enrollment		Validate Authentication	
	Summary	Reason code 475	Reason code 100	
	Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.		ics_pa_validate service was successful.
		ACS URL	URL value	Authentication result 1
		PAReq	PAReq value	CAVV CAVV value
		proofXML	proofXML value	E-commerce indicator aesk_attempted
		VERes enrolled	Y	ECI 06
		XID	XID value	PARes status A
			XID	XID value
Action	<p>If you request Validate Authentication and authorization services separately, follow these steps:</p> <ol style="list-style-type: none">1 Add the signed PARes to the Validate Authentication request.2 Ensure that the XID from the enrollment check matches that from the authentication validation.3 Add the CAVV and ECI values to your authorization request. <p>If you request the validation and authorization services together, the process described above occurs automatically.</p>			

Test Case 41: American Express SafeKey Card Enrolled: Incomplete Authentication

Card Number	340000000002302	Without authentication window	
Auth. Type	Active authentication		
Results	Check Enrollment		Validate Authentication
	Reason code	475	Reason code 100
	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.		ics_pa_validate service was successful.
	ACS URL	URL value	Authentication result 6
	PAReq	PAReq value	E-commerce indicator internet
	proofXML	proofXML value	ECI 07
	VERes enrolled	Y	PARes status U
	XID	XID value	XID XID value
	Action	Ask the customer for another form of payment, or submit the transaction. No liability shift.	

Test Case 42: American Express SafeKey Card Enrolled: Unsuccessful Authentication

Card Number	340000000000033 Without authentication window	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated.
	ACS URL URL value	Authentication result 9
	PARReq PARReq value	PARes status N
	proofXML proofXML value	ECI 07
	VERes enrolled Y	XID XID value
	XID XID value	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 43: American Express SafeKey Card Enrolled: Unavailable Authentication

Card Number	3400000000007780	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
Details	ics_pa_enroll service was successful.	
	E-commerce indicator internet	
	proofXML proofXML value	
	VERes enrolled U	
Action	Submit your authorization request. No liability shift.	

Test Case 44: American Express SafeKey Card Enrolled: Authentication Error

Card Number	340000000009299	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	We encountered a payer authentication problem: Error Processing PAREs.
Details	ACS URL URL value	ECI 07
	PAReq PAReq value	E-commerce Indicator internet
	proofXML proofXML value	
	VERes enrolled Y	
	XID XID value	
Action	Ask the customer for another form of payment. No liability shift.	

Test Case 45: American Express SafeKey Card Not Enrolled

Card Number	340000000008135	
Auth. Type	Non-participating bank	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
	ics_pa_enroll service was successful.	
Details	E-commerce indicator internet	
	ECI 07	
	proofXML proofXML value	
	VERes enrolled N	
Action	Submit the transaction.	

Test Case 46: American Express SafeKey Enrollment Check: Time-Out

Card Number	340000000008309	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
	ics_pa_enroll service was successful.	
Details	E-commerce indicator internet	
	ECI 07	
	proofXML proofXML value	
Action	After 10-12 seconds, proceed with the authorization request. No liability shift.	

Test Case 47: American Express SafeKey Enrollment Check Error

Card Number	340000000007244	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
	ics_pa_enroll service was successful.	
Details	E-commerce indicator internet	
	proofXML proofXML value	
	VERes enrolled U	
Action	Proceed with the authorization request, and contact your support representative to resolve the issue. If you requested payer authentication and authorization together, the authorization is processed automatically. No liability shift.	

JCB J/Secure

Table 11 Possible Values for JCB J/Secure Reply Fields

Result and Interpretation		payerAuthValidateReply_			
		authentication Result	eci	commerceIndicator	reasonCode
Success	Successful authentication.	0	05	js	100
	Recorded attempt to authenticate	1	06	js_attempted	100
Failure (Customer not responsible)	System error that prevents the completion of authentication: you can proceed with authorization, but no liability shift.	6	1	__ ²	
	Issuer unable to perform authentication	6	07	internet	100
	Incomplete or unavailable authentication.		07	internet js_failure	
	Invalid PAREs.	-1	00		476
Failure (Customer responsible)	Authentication failed or cardholder did not complete authentication. If the authentication fails, Visa requires that you do not accept the card. You must ask the customer to use another payment method.	9	—	—	476

1 The ECI value can vary depending on the reason for the failure.

2 A dash (—) indicates that the field is blank or absent.

Test Case 48: JCB J/Secure Card Enrolled: Successful Authentication

Card Number	3569990010083722 Without authentication window	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	ACS URL URL	Authentication result 0
	PARReq PARReq value	CAVV CAVV value
	proofXML proofXML value	E-commerce indicator js
	VERes enrolled Y	ECI 05
	XID XID value	PARes status Y
		XID XID value
Action	1 Add the signed PARes to the Validate Authentication request. 2 Ensure that the XID from the enrollment check matches that from the authentication validation. 3 Add the CAVV and ECI values to your authorization request.	

Test Case 49: JCB J/Secure Card Enrolled: Successful Authentication but Invalid PARes (Signature Failure)

Card Number	3569990010083748	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	We encountered a payer authentication problem: PARes signature digest value mismatch. PARes message has been modified.
	ACS URL URL value	Authentication result -1
	PARReq PARReq value	XID XID value
	VERes enrolled Y	
Action	Do not proceed with authorization. Instead ask the customer for another form of payment.	

Test Case 50: JCB J/Secure Card Enrolled: Attempted Authentication

Card Number	3569960010083758		
Auth. Type	Activation during shopping		
Results	Check Enrollment	Validate Authentication	
Summary	Reason code	475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.		ics_pa_validate service was successful.
	ACS URL	URL value	Authentication result 1
	PAReq	PAReq value	CAVV CAVV value
	proofXML	proofXML value	E-commerce indicator js_attempted
	VERes enrolled	Y	ECI 06
	XID	XID value	PARes status A
		XID	XID value
Action	<p>If you request Validate Authentication and authorization services separately, follow these steps:</p> <ol style="list-style-type: none"> 1 Add the signed PARes to the validation request. 2 In the reply, ensure that the XID from the enrollment check matches that from the validation. 3 Add the CAVV and ECI values to your authorization request. <p>If you request the Validate Authentication and authorization services together, the process described above occurs automatically.</p>		

Test Case 51: JCB J/Secure Card Enrolled: Incomplete Authentication (Unavailable)

Card Number	3541599998103643	Without authentication window	
Auth. Type	Active authentication		
Results Summary	Check Enrollment		Validate Authentication
	Reason code	475	Reason code 100
	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.		<div><div>■ Issuer unable to perform authentication.</div><div>■ ics_pa_validate service was successful.</div></div>
Details	ACS URL	URL value	Authentication result 6
	PAReq	PAReq value	E-commerce indicator internet
	proofXML	proofXML value	ECI 07
	VERes enrolled	Y	PARes status U
	XID	XID value	XID XID value
Action	Ask the customer for another form of payment, or submit the transaction. No liability shift.		

Test Case 52: JCB J/Secure Card Enrolled: Failed Authentication

Card Number	3569990110083721 Without authentication window	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated.
	ACS URL URL value	Authentication result 9
	PAReq PAReq value	PARes status N
	proofXML proofXML value	XID XID value
	VERes enrolled Y	
	XID XID value	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 53: JCB J/Secure Card Enrolled: Unavailable Authentication

Card Number	3541599999103865	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
Details	ics_pa_enroll service was successful.	
	E-commerce indicator internet	
	proofXML proofXML value	
	VERes enrolled U	
Action	Submit your authorization request. No liability shift.	

Test Case 54: JCB J/Secure Card Enrolled: Authentication Error Processing PAREs

Card Number	3541599999103881	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	We encountered a payer authentication problem: Error Processing PAREs.
Details	ACS URL URL value	ECI 07
	PARReq PARReq value	E-commerce indicator internet
	proofXML proofXML value	
	VERes enrolled Y	
	XID XID value	
Action	Ask the customer for another form of payment. No liability shift.	

Test Case 55: JCB J/Secure Card Not Enrolled

Card Number	3569970010083724	
Auth. Type	Non-participating bank	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
	ics_pa_enroll service was successful.	
Details	E-commerce indicator js_attempted	
	ECI 06	
	proofXML proofXML value	
	VERes enrolled N	
Action	Submit your authorization request. Liability shift.	

Test Case 56: JCB J/Secure Enrollment Check: Time-Out

Card Number	3569980010083723	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code	100
	ics_pa_enroll service was successful.	
Details	E-commerce indicator	internet
	proofXML	proofXML value
Action	After 10-12 seconds, proceed with the authorization request. No liability shift.	

Test Case 57: JCB J/Secure Enrollment Check: Lookup Error Processing Message Request

Card Number	3541599969103614	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code	100
	ics_pa_enroll service was successful.	
Details	E-commerce indicator	internet
	proofXML	proofXML value
	VERes enrolled	U
Action	Proceed with the authorization request, and contact your support representative to resolve the issue. No liability shift. If you requested payer authentication and authorization together, the authorization is processed automatically.	

Diners Club ProtectBuy

Table 12 Possible Values for Diners Club ProtectBuy Reply Fields

Result and Interpretation		Validate Authentication Reply			
		Authentication Result	ECI	Commerce Indicator	Reason Code
Success	Successful authentication.	0	05	pb	100
	Recorded attempt to authenticate.	1	06	pb_ attempted	100
Failure (Customer not responsible)	System error that prevents the completion of authentication: you can proceed with authorization, but there is no liability shift.	6	1	— ²	100
	Issuer unable to perform authentication.	6	07	internet	100
	Incomplete or unavailable authentication.		07	internet	
	Invalid PAREs.	-1	—	—	476
Failure (Customer responsible)	Authentication failed or cardholder did not complete authentication. If the authentication fails, Visa requires that you do not accept the card. You must ask the customer to use another payment method.	9	—	—	476

1 The ECI value can vary depending on the reason for the failure.

2 A dash (—) indicates that the field is blank or absent.

Test Case 58: Diners Club ProtectBuy Card Enrolled: Successful Authentication

Card Number	3005000000006246	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	ACS URL URL	Authentication result 0
	PARReq PARReq value	CAVV CAVV value
	proofXML proofXML value	E-commerce indicator pb
	VERes enrolled Y	ECI 05
	XID XID value	PARes status Y
		XID XID value
Action	1 Add the signed PARes to the Validate Authentication request. 2 Ensure that the XID from the enrollment check matches that from the authentication validation. 3 Add the CAVV and ECI values to your authorization request.	

Test Case 59: Diners Club ProtectBuy Card Enrolled: Successful Authentication but Invalid PARes

Card Number	3005000000004373	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	We encountered a payer authentication problem: PARes signature digest value mismatch. PARes message has been modified.
	ACS URL URL value	Authentication result -1
	PARReq PARReq value	XID XID value
	proofXML proofXML value	
	VERes enrolled Y	
	XID XID value	
Action	Do not proceed with authorization. Instead, ask the customer for another form of payment.	

Test Case 60: Diners Club ProtectBuy Card Enrolled: Attempts Processing

Card Number	3005000000005271 Card enrollment option during purchase process	
Auth. Type	Activation during shopping	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	ACS URL URL value	Authentication result 1
	PAReq PAReq value	CAVV CAVV value
	proofXML proofXML value	E-commerce indicator pb_attempted
	VERes enrolled Y	ECI 06
	XID XID value	PARes status A
		XID XID value
Action	<p>If you request Validate Authentication and authorization services separately, follow these steps:</p> <ol style="list-style-type: none"> 1 Add the signed PARes to the validation request. 2 Ensure that the XID from the enrollment check matches that from the authentication validation. 3 Add the CAVV and ECI values to your authorization request. <p>If you request the Validate Authentication and authorization services together, the process described above occurs automatically.</p>	

Test Case 61: Diners Club ProtectBuy Card Enrolled: Incomplete Authentication

Card Number	3005000000007376	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ Issuer unable to perform authentication. ■ ics_pa_validate service was successful.
	ACS URL URL value	Authentication result 6
	PAReq PAReq value	E-commerce indicator internet
	proofXML proofXML value	ECI 07
	VERes enrolled Y	PARes status U
	XID XID value	XID XID value
Action	Ask the customer for another form of payment, or submit the transaction. No liability shift.	

Test Case 62: Diners Club ProtectBuy Card Enrolled: Unsuccessful Authentication

Card Number	3005000000005925	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated.
	ACS URL URL value	Authentication result 9
	PAReq PAReq value	PARes status N
	proofXML proofXML value	XID XID value
	VERes enrolled Y	
	XID XID value	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 63: Diners Club ProtectBuy Card Enrolled: Unavailable Authentication

Card Number	3005000000006030	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
Details	ics_pa_enroll service was successful.	
	E-commerce indicator internet	
	proofXML proofXML value	
	VERes enrolled U	
Action	Submit your authorization request. No liability shift.	

Test Case 64: Diners Club ProtectBuy Card Enrolled: Authentication Error

Card Number	3005000000005602	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	We encountered a payer authentication problem: Error Processing PAREs.
Details	ACS URL URL value	E-commerce indicator internet
	PARReq PARReq value	ECI 07
	proofXML proofXML value	
	VERes enrolled Y	
	XID XID value	
Action	Ask the customer for another form of payment. No liability shift.	

Test Case 65: Diners Club ProtectBuy Card Not Enrolled

Card Number	3005000000007269	
Auth. Type	Non-participating bank	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
	ics_pa_enroll service was successful.	
Details	E-commerce indicator internet	
	ECI 07	
	proofXML proofXML value	
	VERes enrolled N	
Action	Submit the transaction.	

Test Case 66: Diners Club ProtectBuy Enrollment Check: Time-Out

Card Number	3005000000001890	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
	ics_pa_enroll service was successful.	
Details	E-commerce indicator internet	
	proofXML proofXML value	
Action	After 10-12 seconds, proceed with the authorization request. No liability shift.	

Test Case 67: Diners Club ProtectBuy Enrollment Check Error

Card Number	3005000000009877	Error response
	3005000000004837	Incorrect Configuration: Unable to Authenticate
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
	ics_pa_enroll service was successful.	
Details	E-commerce indicator internet	
	proofXML proofXML value	
	VERes enrolled U	
Action	Proceed with the authorization request, and contact your support representative to resolve the issue. No liability shift. If you requested payer authentication and authorization together, the authorization is processed automatically.	

Discover ProtectBuy

Table 13 Possible Values for Discover ProtectBuy Reply Fields

Result and Interpretation		Validate Authentication Reply			
		Authentication Result	ECI	Commerce Indicator	Reason Code
Success	Successful authentication.	0	05	dipb	100
	Recorded attempt to authenticate.	1	06	dipb_ attempted	100
Failure (Customer not responsible)	System error that prevents the completion of authentication: you can proceed with authorization, but there is no liability shift.	6	1	— ²	100
	Issuer unable to perform authentication.	6	07	internet	100
	Incomplete or unavailable authentication.		07	internet	
	Invalid PAREs.	-1	—	—	476
Failure (Customer responsible)	Authentication failed or cardholder did not complete authentication. If the authentication fails, Visa requires that you do not accept the card. You must ask the customer to use another payment method.	9	—	—	476

1 The ECI value can vary depending on the reason for the failure.

2 A dash (—) indicates that the field is blank or absent.

Test Case 68: Discover ProtectBuy Card Enrolled: Successful Authentication

Card Number	6011000000000004		
Auth. Type	Active authentication		
Results	Check Enrollment	Validate Authentication	
Summary	Reason code	475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.		ics_pa_validate service was successful.
	ACS URL	URL	Authentication result 0
	PARReq	PARReq value	CAVV CAVV value
	proofXML	proofXML value	E-commerce indicator dipb
	VERes enrolled	Y	ECI 05
	XID	XID value	PARes status Y
			XID XID value
Action	1 Add the signed PARes to the Validate Authentication request. 2 Ensure that the XID from the enrollment check matches that from the authentication validation. 3 Add the CAVV and ECI values to your authorization request.		

Test Case 69: Discover ProtectBuy Card Enrolled: Successful Authentication but Invalid PARes

Card Number	6011000000000012		
Auth. Type	Active authentication		
Results	Check Enrollment	Validate Authentication	
Summary	Reason code	475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.		We encountered a payer authentication problem: PARes signature digest value mismatch. PARes message has been modified.
	ACS URL	URL value	Authentication result -1
	PARReq	PARReq value	XID XID value
	proofXML	proofXML value	
	VERes enrolled	Y	
	XID	XID value	
Action	Do not proceed with authorization. Instead, ask the customer for another form of payment.		

Test Case 70: Discover ProtectBuy Card Enrolled: Attempts Processing

Card Number	6011000000000038 Card enrollment option during purchase process	
Auth. Type	Activation during shopping	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	ACS URL URL value	Authentication result 1
	PAReq PAReq value	CAVV CAVV value
	proofXML proofXML value	E-commerce indicator dipb_attempted
	VERes enrolled Y	ECI 06
	XID XID value	PARes status A
		XID XID value
Action	<p>If you request Validate Authentication and authorization services separately, follow these steps:</p> <ol style="list-style-type: none"> 1 Add the signed PARes to the validation request. 2 Ensure that the XID from the enrollment check matches that from the authentication validation. 3 Add the CAVV and ECI values to your authorization request. <p>If you request the Validate Authentication and authorization services together, the process described above occurs automatically.</p>	

Test Case 71: Discover ProtectBuy Card Enrolled: Incomplete Authentication

Card Number	6011000000000103	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ Issuer unable to perform authentication. ■ ics_pa_validate service was successful.
	ACS URL URL value	Authentication result 6
	PAReq PAReq value	E-commerce indicator internet
	proofXML proofXML value	ECI 07
	VERes enrolled Y	PARes status U
	XID XID value	XID XID value
Action	Ask the customer for another form of payment, or submit the transaction. No liability shift.	

Test Case 72: Discover ProtectBuy Card Enrolled: Unsuccessful Authentication

Card Number	6011000000000020	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated.
	ACS URL URL value	Authentication result 9
	PARReq PAReq value	PARes status N
	proofXML proofXML value	XID XID value
	VERes enrolled Y	
	XID XID value	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 73: Discover ProtectBuy Card Enrolled: Unavailable Authentication

Card Number	6011000000000061	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
Details	ics_pa_enroll service was successful.	
	E-commerce indicator internet	
	proofXML proofXML value	
	VERes enrolled U	
Action	Submit your authorization request. No liability shift.	

Test Case 74: Discover ProtectBuy Card Enrolled: Authentication Error

Card Number	6011000000000095	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	We encountered a payer authentication problem: Error Processing PAREs.
Details	ACS URL URL value	E-commerce indicator internet
	PARReq PARReq value	ECI 07
	proofXML proofXML value	
	VERes enrolled Y	
	XID XID value	
Action	Ask the customer for another form of payment. No liability shift.	

Test Case 75: Discover ProtectBuy Card Not Enrolled

Card Number	6011000000000053	
Auth. Type	Non-participating bank	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	
	ics_pa_enroll service was successful.	
Details	E-commerce indicator internet	
	ECI 07	
	proofXML proofXML value	
	VERes enrolled N	
Action	Submit the transaction.	

Test Case 76: Discover ProtectBuy Enrollment Check: Time-Out

Card Number	6011000000000046	
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code	100
	ics_pa_enroll service was successful.	
Details	E-commerce indicator	internet
	proofXML	proofXML value
Action	After 10-12 seconds, proceed with the authorization request. No liability shift.	

Test Case 77: Discover ProtectBuy Enrollment Check Error

Card Number	6011000000000087	Error response
	6011000000000079	Incorrect Configuration: Unable to Authenticate
Auth. Type	Active authentication	
Results	Check Enrollment	Validate Authentication
Summary	Reason code	100
	ics_pa_enroll service was successful.	
Details	E-commerce indicator	internet
	proofXML	proofXML value
	VERes enrolled	U
Action	Proceed with the authorization request, and contact your support representative to resolve the issue. No liability shift. If you requested payer authentication and authorization together, the authorization is processed automatically.	

Test Cases for 3D Secure 2.0

This section includes test cases for the Cardinal Cruise Standard integration.

Use the card number specified in the test with the card's expiration date set to the month of January and the current year plus three. For example, for 2018, use 2021. You also need the minimum required fields for an order.

Verified by Visa

Test Case 2.1: Verified by Visa Card Enrolled: Successful Frictionless Authentication

Card Number	4000000000001000	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
	ics_pa_enroll service was successful.	
Details	Enrolled Y	
	PARes status Y	
	SignatureVerification Y	
	CAVV CAVV value	
	E-commerce indicator vbv	
	ECI 05	
	ACS URL blank	
Action	If you request Validate Authentication and authorization services separately, add the CAVV and ECI values to your authorization request. If you request the Validate Authentication and authorization services together, the process described above occurs automatically.	

Test Case 2.2: Verified by Visa Card Enrolled: Unsuccessful Frictionless Authentication

Card Number	4000000000001018	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 476	NA
Details	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated. 	
	Enrolled Y	
	PAREs status N	
	SignatureVerification Y	
	CAVV blank	
	E-commerce indicator blank	
	ECI 07	
	ACS URL blank	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 2.3: Verified by Visa Card Enrolled: Attempts Processing Frictionless Authentication

Card Number	4000000000001026	
Results	Check Enrollment	Validate Authentication
Summary	Reason code	100
		NA
Details	ics_pa_enroll service was successful.	
	Enrolled	Y
	PARes status	A
	SignatureVerification	Y
	CAVV	CAVV value
	E-commerce indicator	vbv_attempted
	ECI	06
	ACS URL	blank
Action	If you request Validate Authentication and authorization services separately, add the CAVV and ECI values to your authorization request. If you request the Validate Authentication and authorization services together, the process described above occurs automatically.	

Test Case 2.4: Verified by Visa Card Enrolled: Unavailable Frictionless Authentication

Card Number	4000000000001034	
Results	Check Enrollment	Validate Authentication
Summary	Reason code	100
		NA
Details	ics_pa_enroll service was successful.	
	Enrolled	Y
	PARes status	U
	SignatureVerification	Y
	CAVV	blank
	E-commerce indicator	vbv_failure
	ECI	07
	ACS URL	blank
Action	Submit your authorization request. No liability shift.	

Test Case 2.5: Verified by Visa Card Enrolled: Rejected Frictionless Authentication

Card Number	4000000000001042	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 476	NA
Details	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated. 	
	Enrolled Y	
	PAREs status R	
	SignatureVerification Y	
	CAVV blank	
	E-commerce indicator blank	
	ECI 07	
	ACS URL blank	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 2.6: Verified by Visa Card Enrolled: Authentication not Available on Lookup

Card Number	4000000000001059	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled U	
	PAREs status blank	
	SignatureVerification blank	
	CAVV blank	
	E-commerce indicator vbv_failure	
	ECI 07	
	ACS URL blank	
Action	Submit your authorization request. No liability shift.	

Test Case 2.7: Verified by Visa Enrollment Check Error

Card Number	4000000000001067	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled blank	
	PARes status U	
	SignatureVerification blank	
	CAVV blank	
	E-commerce indicator vbv_failure	
	ECI 07	
	ACS URL blank	
Action	Proceed with the authorization request, and contact your support representative to resolve the issue. No liability shift. If you requested payer authentication and authorization together, the authorization is processed automatically.	

Test Case 2.8: Verified by Visa Enrollment Check: Time-Out

Card Number	4000000000001075	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled blank	
	PARes status U	
	SignatureVerification blank	
	CAVV blank	
	E-commerce indicator vbv_failure	
	ECI blank	
	ACS URL blank	
Action	After 10-12 seconds, proceed with the authorization request. No liability shift.	

Test Case 2.9: Verified by Visa Bypassed Authentication

Card Number	4000000000001083	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled B	
	PARes status blank	
	SignatureVerification blank	
	CAVV blank	
	E-commerce indicator internet	
	ECI 07	
	ACS URL blank	
Action	Submit your authorization request. No liability shift.	

Test Case 2.10: Verified by Visa Card Enrolled: Successful Step Up Authentication

Card Number	4000000000001091	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	
	ics_pa_validate service was successful.	
	Enrolled Y	
	PAReq PAReq value	PARes status Y
	SignatureVerification Y	SignatureVerification Y
	CAVV blank	CAVV CAVV value
	E-commerce indicator blank	E-commerce indicator vbv
	ECI blank	ECI 05
	ACS URL blank	
Action	If you request Validate Authentication and authorization services separately, add the CAVV and ECI values to your authorization request. If you request the Validate Authentication and authorization services together, the process described above occurs automatically.	

Test Case 2.11: Verified by Visa Card Enrolled: Unsuccessful Step Up Authentication

Card Number	4000000000001109	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated.
	Enrolled Y	
	PAReq PAReq value	PARes status N
	SignatureVerification Y	SignatureVerification Y
	CAVV blank	CAVV blank
	E-commerce indicator blank	E-commerce indicator blank
	ECI blank	ECI 07
	ACS URL blank	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 2.12: Verified by Visa Card Enrolled: Unavailable Step Up Authentication

Card Number	4000000000001117	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	Enrolled Y	
	PAReq PAReq value	PARes status U
	SignatureVerification Y	SignatureVerification Y
	CAVV blank	CAVV blank
	E-commerce indicator blank	E-commerce indicator vbv_failure
	ECI blank	ECI 07
	ACS URL blank	
Action	Retry authentication or process without liability shift.	

Test Case 2.13: Verified by Visa Card Enrolled: Authentication Error

Card Number	4000000000001125	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	Enrolled Y	
	PAReq PAReq value	PARes status U
	SignatureVerification Y	SignatureVerification blank
	CAVV blank	CAVV blank
	E-commerce indicator blank	E-commerce indicator vbv_failure
	ECI blank	ECI 07
	ACS URL blank	
Action	Ask the customer for another form of payment. No liability shift.	

Test Case 2.14: Verified by Visa Card Enrolled: Step Up Authentication With Merchant Bypass

Card Number	4000000000001133	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	Enrolled Y	
	PAReq PAReq value	PARes status B
	SignatureVerification Y	SignatureVerification Y
	CAVV blank	CAVV blank
	E-commerce indicator blank	E-commerce indicator internet
	ECI blank	ECI 07
	ACS URL blank	
Action	Submit your authorization request. No liability shift.	

Mastercard SecureCode

Test Case 2.15: Mastercard SecureCode Card Enrolled: Successful Frictionless Authentication

Card Number	5200000000001005	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled Y	
	PARes status Y	
	SignatureVerification Y	
	AAV AAV value	
	E-commerce indicator spa	
	ECI 2	
	ACS URL blank	
Action	If you request Validate Authentication and authorization services separately, add the CAVV and ECI values to your authorization request. If you request the Validate Authentication and authorization services together, the process described above occurs automatically.	

Test Case 2.16: Mastercard SecureCode Card Enrolled: Unsuccessful Frictionless Authentication

Card Number	5200000000001013	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 476	NA
Details	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated. 	
	Enrolled Y	
	PAREs status N	
	SignatureVerification Y	
	AAV blank	
	E-commerce indicator blank	
	ECI 0	
	ACS URL blank	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 2.17: Mastercard SecureCode Card Enrolled: Attempts Processing Frictionless Authentication

Card Number	5200000000001021	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled Y	
	PARes status A	
	SignatureVerification Y	
	AAV AAV value	
	E-commerce indicator spa	
	ECI 1	
	ACS URL blank	
Action	If you request Validate Authentication and authorization services separately, add the CAVV and ECI values to your authorization request. If you request the Validate Authentication and authorization services together, the process described above occurs automatically.	

Test Case 2.18: Mastercard SecureCode Card Enrolled: Unavailable Frictionless Authentication

Card Number	5200000000001039	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled Y	
	PARes status U	
	SignatureVerification Y	
	AAV blank	
	E-commerce indicator internet	
	ECI 0	
	ACS URL blank	
Action	Submit your authorization request. No liability shift.	

Test Case 2.19: Mastercard SecureCode Card Enrolled: Rejected Frictionless Authentication

Card Number	5200000000001047	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 476	NA
Details	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated. 	
	Enrolled Y	
	PAREs status R	
	SignatureVerification Y	
	AAV blank	
	E-commerce indicator blank	
	ECI 0	
	ACS URL blank	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 2.20: Mastercard SecureCode Card Enrolled: Authentication not Available on Lookup

Card Number	5200000000001054	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled U	
	PAREs status blank	
	SignatureVerification blank	
	AAV blank	
	E-commerce indicator internet	
	ECI 0	
	ACS URL blank	
Action	Submit your authorization request. No liability shift.	

Test Case 2.21: Mastercard SecureCode Enrollment Check Error

Card Number	5200000000001062	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled U	
	PARes status blank	
	SignatureVerification blank	
	AAV blank	
	E-commerce indicator internet	
	ECI 0	
	ACS URL blank	
Action	Proceed with the authorization request, and contact your support representative to resolve the issue. No liability shift. If you requested payer authentication and authorization together, the authorization is processed automatically.	

Test Case 2.22: Mastercard SecureCode Enrollment Check: Time-Out

Card Number	5200000000001070	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled U	
	PARes status blank	
	SignatureVerification blank	
	AAV blank	
	E-commerce indicator internet	
	ECI blank	
	ACS URL blank	
Action	After 10-12 seconds, proceed with the authorization request. No liability shift.	

Test Case 2.23: Mastercard SecureCode Bypassed Authentication

Card Number	5200000000001088	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled B	
	PARes status blank	
	SignatureVerification blank	
	AAV blank	
	E-commerce indicator internet	
	ECI 0	
	ACS URL blank	
Action	Submit your authorization request. No liability shift.	

Test Case 2.24: Mastercard SecureCode Card Enrolled: Successful Step Up Authentication

Card Number	5200000000001096	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	Enrolled Y	
	PAReq PAReq value	PARes status Y
	SignatureVerification Y	SignatureVerification Y
	AAV blank	AAV AAV value
	E-commerce indicator blank	E-commerce indicator spa
	ECI blank	ECI 2
	ACS URL blank	
Action	If you request Validate Authentication and authorization services separately, add the CAVV and ECI values to your authorization request. If you request the Validate Authentication and authorization services together, the process described above occurs automatically.	

Test Case 2.25: Mastercard SecureCode Card Enrolled: Unsuccessful Step Up Authentication

Card Number	5200000000001104	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated.
	Enrolled Y	
	PAReq PAReq value	PARes status N
	SignatureVerification Y	SignatureVerification Y
	AAV blank	AAV blank
	E-commerce indicator blank	E-commerce indicator blank
	ECI blank	ECI 0
	ACS URL blank	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 2.26: Mastercard SecureCode Card Enrolled: Unavailable Step Up Authentication

Card Number	5200000000001112	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	Enrolled Y	
	PAReq PAReq value	PARes status U
	SignatureVerification Y	SignatureVerification Y
	AAV blank	AAV blank
	E-commerce indicator blank	E-commerce indicator internet
	ECI blank	ECI 0
	ACS URL blank	
Action	Retry authentication or process without liability shift.	

Test Case 2.27: Mastercard SecureCode Card Enrolled: Authentication Error

Card Number	5200000000001120	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	Enrolled Y	
	PAReq PAReq value	PARes status U
	SignatureVerification Y	SignatureVerification blank
	AAV blank	AAV blank
	E-commerce indicator blank	E-commerce indicator internet
	ECI blank	ECI 0
	ACS URL blank	
Action	Ask the customer for another form of payment. No liability shift.	

Test Case 2.28: Mastercard SecureCode Card Enrolled: Step Up Authentication With Merchant Bypass

Card Number	5200000000001138	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	Enrolled Y	
	PAReq PAReq value	PARes status B
	SignatureVerification Y	SignatureVerification Y
	AAV blank	AAV blank
	E-commerce indicator blank	E-commerce indicator internet
	ECI blank	ECI 0
	ACS URL blank	
Action	Submit your authorization request. No liability shift.	

American Express SafeKey

Test Case 2.29: American Express SafeKey Card Enrolled: Successful Frictionless Authentication

Card Number	340000000001007	
Results	Check Enrollment	Validate Authentication
	Reason code 100	NA
Summary	ics_pa_enroll service was successful.	
	Enrolled Y	
	PARes status Y	
	SignatureVerification Y	
	CAVV CAVV value	
	E-commerce indicator aesk	
	ECI 05	
	ACS URL blank	
Action	If you request Validate Authentication and authorization services separately, add the CAVV and ECI values to your authorization request. If you request the Validate Authentication and authorization services together, the process described above occurs automatically.	

Test Case 2.30: American Express SafeKey Card Enrolled: Unsuccessful Frictionless Authentication

Card Number	340000000001015	
Results	Check Enrollment	Validate Authentication
	Summary	
	Reason code 476	NA
	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated. 	
	Details	
	Enrolled Y	
	PARes status N	
	SignatureVerification Y	
	CAVV blank	
	E-commerce indicator blank	
	ECI 07	
	ACS URL blank	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 2.31: American Express SafeKey Card Enrolled: Attempts Processing Frictionless Authentication

Card Number	340000000001023	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled Y	
	PARes status A	
	SignatureVerification Y	
	CAVV CAVV value	
	E-commerce indicator aesk_attempted	
	ECI 06	
	ACS URL blank	
Action	If you request Validate Authentication and authorization services separately, add the CAVV and ECI values to your authorization request. If you request the Validate Authentication and authorization services together, the process described above occurs automatically.	

Test Case 2.32: American Express SafeKey Card Enrolled: Unavailable Frictionless Authentication

Card Number	340000000001031	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled Y	
	PARes status U	
	SignatureVerification Y	
	CAVV blank	
	E-commerce indicator internet	
	ECI 07	
	ACS URL blank	
Action	Submit your authorization request. No liability shift.	

Test Case 2.33: American Express SafeKey Card Enrolled: Rejected Frictionless Authentication

Card Number	340000000001049	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 476	NA
Details	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated. 	
	Enrolled Y	
	PAREs status R	
	SignatureVerification Y	
	CAVV blank	
	E-commerce indicator blank	
	ECI 07	
	ACS URL blank	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 2.34: American Express SafeKey Card Enrolled: Authentication not Available on Lookup

Card Number	340000000001056	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled U	
	PAREs status blank	
	SignatureVerification blank	
	CAVV blank	
	E-commerce indicator internet	
	ECI 07	
	ACS URL blank	
Action	Submit your authorization request. No liability shift.	

Test Case 2.35: American Express SafeKey Enrollment Check Error

Card Number	340000000001064	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled U	
	PARes status blank	
	SignatureVerification blank	
	CAVV blank	
	E-commerce indicator internet	
	ECI 07	
	ACS URL blank	
Action	Proceed with the authorization request, and contact your support representative to resolve the issue. No liability shift. If you requested payer authentication and authorization together, the authorization is processed automatically.	

Test Case 2.36: American Express SafeKey Enrollment Check: Time-Out

Card Number	340000000001072	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled U	
	PARes status blank	
	SignatureVerification blank	
	CAVV blank	
	E-commerce indicator internet	
	ECI blank	
	ACS URL blank	
Action	After 10-12 seconds, proceed with the authorization request. No liability shift.	

Test Case 2.37: American Express SafeKey Bypassed Authentication

Card Number	340000000001080	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled B	
	PARes status blank	
	SignatureVerification blank	
	CAVV blank	
	E-commerce indicator internet	
	ECI 07	
	ACS URL blank	
Action	Submit your authorization request. No liability shift.	

Test Case 2.38: American Express SafeKey Card Enrolled: Successful Step Up Authentication

Card Number	340000000001098	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	
	ics_pa_validate service was successful.	
	Enrolled Y	
	PAReq PAReq value	PARes status Y
	SignatureVerification Y	SignatureVerification Y
	CAVV blank	CAVV CAVV value
	E-commerce indicator blank	E-commerce indicator aesk
	ECI blank	ECI 05
	ACS URL blank	
Action	If you request Validate Authentication and authorization services separately, add the CAVV and ECI values to your authorization request. If you request the Validate Authentication and authorization services together, the process described above occurs automatically.	

Test Case 2.39: American Express SafeKey Card Enrolled: Unsuccessful Step Up Authentication

Card Number	340000000001106	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated.
	Enrolled Y	
	PAReq PAReq value	PARes status N
	SignatureVerification Y	SignatureVerification Y
	CAVV blank	CAVV blank
	E-commerce indicator blank	E-commerce indicator blank
	ECI blank	ECI 07
	ACS URL blank	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 2.40: American Express SafeKey Card Enrolled: Unavailable Step Up Authentication

Card Number	340000000001114	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	Enrolled Y	
	PAReq PAReq value	PARes status U
	SignatureVerification Y	SignatureVerification Y
	CAVV blank	CAVV blank
	E-commerce indicator blank	E-commerce indicator internet
	ECI blank	ECI 07
	ACS URL blank	
Action	Retry authentication or process without liability shift.	

Test Case 2.41: American Express SafeKey Card Enrolled: Authentication Error

Card Number	340000000001122	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	Enrolled Y	
	PAReq PAReq value	PARes status U
	SignatureVerification Y	SignatureVerification blank
	CAVV blank	CAVV blank
	E-commerce indicator blank	E-commerce indicator internet
	ECI blank	ECI 07
	ACS URL blank	
Action	Ask the customer for another form of payment. No liability shift.	

Test Case 2.42: American Express SafeKey Card Enrolled: Step Up Authentication With Merchant Bypass

Card Number	3400000000001130	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	Enrolled Y	
	PAReq PAReq value	PARes status B
	SignatureVerification Y	SignatureVerification Y
	CAVV blank	CAVV blank
	E-commerce indicator blank	E-commerce indicator internet
	ECI blank	ECI 07
	ACS URL blank	
Action	Submit your authorization request. No liability shift.	

Discover ProtectBuy

Test Case 2.43: Discover ProtectBuy Card Enrolled: Successful Frictionless Authentication

Card Number	601100000001002	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled Y	
	PARes status Y	
	SignatureVerification Y	
	CAVV CAVV value	
	E-commerce indicator dipb	
	ECI 05	
	ACS URL blank	
Action	If you request Validate Authentication and authorization services separately, add the CAVV and ECI values to your authorization request. If you request the Validate Authentication and authorization services together, the process described above occurs automatically.	

Test Case 2.44: Discover ProtectBuy Card Enrolled: Unsuccessful Frictionless Authentication

Card Number	601100000001010	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 476	NA
Details	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated. 	
	Enrolled Y	
	PARes status N	
	SignatureVerification Y	
	CAVV blank	
	E-commerce indicator blank	
	ECI 07	
	ACS URL blank	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 2.45: Discover ProtectBuy Card Enrolled: Attempts Processing Frictionless Authentication

Card Number	601100000001028	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled Y	
	PARes status A	
	SignatureVerification Y	
	CAVV CAVV value	
	E-commerce indicator dipb_attempted	
	ECI 06	
	ACS URL blank	
Action	If you request Validate Authentication and authorization services separately, add the CAVV and ECI values to your authorization request. If you request the Validate Authentication and authorization services together, the process described above occurs automatically.	

Test Case 2.46: Discover ProtectBuy Card Enrolled: Unavailable Frictionless Authentication

Card Number	601100000001036	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled Y	
	PARes status U	
	SignatureVerification Y	
	CAVV blank	
	E-commerce indicator internet	
	ECI 07	
	ACS URL blank	
Action	Submit your authorization request. No liability shift.	

Test Case 2.47: Discover ProtectBuy Card Enrolled: Rejected Frictionless Authentication

Card Number	601100000001044	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 476	NA
Details	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated. 	
	Enrolled Y	
	PAREs status R	
	SignatureVerification Y	
	CAVV blank	
	E-commerce indicator blank	
	ECI 07	
	ACS URL blank	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 2.48: Discover ProtectBuy Card Enrolled: Authentication not Available on Lookup

Card Number	601100000001051	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled U	
	PAREs status blank	
	SignatureVerification blank	
	CAVV blank	
	E-commerce indicator internet	
	ECI 07	
	ACS URL blank	
Action	Submit your authorization request. No liability shift.	

Test Case 2.49: Discover ProtectBuy Enrollment Check Error

Card Number	601100000001069	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled U	
	PARes status blank	
	SignatureVerification blank	
	CAVV blank	
	E-commerce indicator internet	
	ECI 07	
	ACS URL blank	
Action	Proceed with the authorization request, and contact your support representative to resolve the issue. No liability shift. If you requested payer authentication and authorization together, the authorization is processed automatically.	

Test Case 2.50: Discover ProtectBuy Enrollment Check: Time-Out

Card Number	6011000000001077	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled U	
	PARes status blank	
	SignatureVerification blank	
	CAVV blank	
	E-commerce indicator internet	
	ECI blank	
	ACS URL blank	
Action	After 10-12 seconds, proceed with the authorization request. No liability shift.	

Test Case 2.51: Discover ProtectBuy Bypassed Authentication

Card Number	6011000000001085	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 100	NA
Details	ics_pa_enroll service was successful.	
	Enrolled B	
	PARes status blank	
	SignatureVerification blank	
	CAVV blank	
	E-commerce indicator internet	
	ECI 07	
	ACS URL blank	
Action	Submit your authorization request. No liability shift.	

Test Case 2.52: Discover ProtectBuy Card Enrolled: Successful Step Up Authentication

Card Number	6011000000001093	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	Enrolled Y	
	PAReq PAReq value	PARes status Y
	SignatureVerification Y	SignatureVerification Y
	CAVV blank	CAVV CAVV value
	E-commerce indicator blank	E-commerce indicator dipb
	ECI blank	ECI 05
	ACS URL blank	
Action	If you request Validate Authentication and authorization services separately, add the CAVV and ECI values to your authorization request. If you request the Validate Authentication and authorization services together, the process described above occurs automatically.	

Test Case 2.53: Discover ProtectBuy Card Enrolled: Unsuccessful Step Up Authentication

Card Number	6011000000001101	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 476
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	<ul style="list-style-type: none"> ■ User failed authentication. ■ Payer cannot be authenticated.
	Enrolled Y	
	PAReq PAReq value	PARes status N
	SignatureVerification Y	SignatureVerification Y
	CAVV blank	CAVV blank
	E-commerce indicator blank	E-commerce indicator blank
	ECI blank	ECI 07
	ACS URL blank	
Action	You are not permitted to submit this transaction for authorization. Instead ask the customer for another form of payment.	

Test Case 2.54: Discover ProtectBuy Card Enrolled: Unavailable Step Up Authentication

Card Number	6011000000001119	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	Enrolled Y	
	PAReq PAReq value	PARes status U
	SignatureVerification Y	SignatureVerification Y
	CAVV blank	CAVV blank
	E-commerce indicator blank	E-commerce indicator internet
	ECI blank	ECI 07
	ACS URL blank	
Action	Retry authentication or process without liability shift.	

Test Case 2.55: Discover ProtectBuy Card Enrolled: Authentication Error

Card Number	6011000000001127	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	Enrolled Y	
	PAReq PAReq value	PARes status U
	SignatureVerification Y	SignatureVerification blank
	CAVV blank	CAVV blank
	E-commerce indicator blank	E-commerce indicator internet
	ECI blank	ECI 07
	ACS URL blank	
Action	Ask the customer for another form of payment. No liability shift.	

Test Case 2.56: Discover ProtectBuy Card Enrolled: Step Up Authentication With Merchant Bypass

Card Number	6011000000001135	
Results	Check Enrollment	Validate Authentication
Summary	Reason code 475	Reason code 100
Details	The cardholder is enrolled in payer authentication. Please authenticate before proceeding with authorization.	ics_pa_validate service was successful.
	Enrolled Y	
	PAReq PAReq value	PARes status B
	SignatureVerification Y	SignatureVerification Y
	CAVV blank	CAVV blank
	E-commerce indicator blank	E-commerce indicator internet
	ECI blank	ECI 07
	ACS URL blank	
Action	Submit your authorization request. No liability shift.	

API Fields

This appendix describes the Simple Order API fields that you can use to access CyberSource Payer Authentication services. The API and client toolkits can be downloaded from the CyberSource web site at the following URL:

http://www.cybersource.com/developers/develop/integration_methods/simple_order_and_soap_toolkit_api/

Formatting Restrictions

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



Note

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

For Atos, the **billTo_** fields must not contain colons (:).

The values of all request fields must not contain new lines or carriage returns. However, they can contain embedded spaces and any other printable characters. All leading and trailing spaces will be removed.

Data Type Definitions

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

<http://www.w3.org/TR/2001/REC-xmlschema-2-20010502/>

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

Numbered Elements

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

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

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

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

Example 5 Numbered XML Schema Element Names and Name-Value Pair Field Names

XML Schema Element Names	Corresponding Name-Value Pair Field Names
<pre><item id="0"> <unitPrice> <quantity> </item></pre>	<pre>item_0_unitPrice item_0_quantity</pre>
<pre><item id="1"> <unitPrice> <quantity> </item></pre>	<pre>item_1_unitPrice item_1_quantity</pre>



Important

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

Request Fields

See *Credit Card Services Using the Simple Order API* ([PDF](#) | [HTML](#)) and *Getting Started with CyberSource Advanced* ([PDF](#) | [HTML](#)) for more information about using the Simple Order API to access CyberSource services using either name-value pairs or XML.



Note

The fields in the following table refer to the enroll and validate services only. Please review *Credit Card Services Using the Simple Order API* ([PDF](#) | [HTML](#)) for more information about the fields specific to the authorization.

Table 14 Request Fields

Field Name	Description	Required/ Optional	Type & Length
airlineData_leg_#_ carrierCode	International Air Transport Association (IATA) code for the carrier for this leg of the trip. Required for each leg. Required for American Express SafeKey (U.S.) for travel-related requests.	Enroll (O)	String (2)
airlineData_leg_#_ departureDate	Departure date for the first leg of the trip. Format: YYYYMMDD. Required for American Express SafeKey (U.S.) for travel-related requests.	Enroll (O)	Integer (8)
airlineData_leg_#_ destination	International Air Transport Association (IATA) code for the destination airport for this leg of the trip. Required for each leg. Required for American Express SafeKey (U.S.) for travel-related requests.	Enroll (O)	String (5)
airlineData_leg_#_ originatingAirportCode	International Air Transport Association (IATA) code for the originating airport for the first leg of the trip. Required for American Express SafeKey (U.S.) for travel-related requests.	Enroll (O)	String (5)
airlineData_ numberOfPassengers	Number of passengers for whom the ticket was issued. If you do not include this field in your request, CyberSource uses a default value of 1. Required for American Express SafeKey (U.S.) for travel-related requests.	Enroll (O)	Integer (3)

Table 14 Request Fields (Continued)

Field Name	Description	Required/ Optional	Type & Length
airlineData_passenger_#_ firstName	<p>First name of the passenger to whom the ticket was issued. If there are multiple passengers, include all listed on the ticket.</p> <p>Do not include special characters such as commas, hyphens, or apostrophes. Only ASCII characters are supported.</p> <p>Required for American Express SafeKey (U.S.) for travel-related requests.</p>	Enroll (O)	String (60)
airlineData_passenger_#_ lastName	<p>Last name of the passenger to whom the ticket was issued. If there are multiple passengers, include all listed on the ticket.</p> <p>Do not include special characters such as commas, hyphens, or apostrophes. Only ASCII characters are supported.</p> <p>Required for American Express SafeKey (U.S.) for travel-related requests.</p>	Enroll (O)	String (60)
billTo_city	City of the billing address.	Enroll (O)	String (50)
billTo_country	Billing country for the account. Use the two-character country codes .	Enroll (O)	String (2)
billTo_ customerAccountChange Date	<p>Date the cardholder's account was last changed. This includes changes to the billing or shipping address, new payment accounts or new users added.</p> <p>This field can contain one of these values:</p> <ul style="list-style-type: none"> ■ -1: Guest account ■ 0: Changed during this transaction <p>If neither of these apply, enter the date in YYYYMMDD format.</p> <p>Recommended for Discover ProtectBuy.</p>	Enroll (O)	Integer (8)
billTo_ customerAccountCreate Date	<p>Date the cardholder opened the account.</p> <p>This field can contain one of these values:</p> <ul style="list-style-type: none"> ■ -1: Guest account ■ 0: Opened during this transaction <p>If neither of these apply, enter the date in YYYYMMDD format.</p> <p>Recommended for Discover ProtectBuy.</p>	Enroll (O)	Integer (8)

Table 14 Request Fields (Continued)

Field Name	Description	Required/ Optional	Type & Length
billTo_ customerAccount PasswordChange Date	<p>Date the cardholder last changed or reset password on account.</p> <p>This field can contain one of these values:</p> <ul style="list-style-type: none"> ■ -1: Guest account ■ 0: Changed during this transaction <p>If neither of these apply, enter the date in YYYYMMDD format.</p> <p>Recommended for Discover ProtectBuy.</p>	Enroll (O)	Integer (8)
billTo_email	<p>Customer's email address, including the full domain name. Use the following format: name@host.domain (for example, jdoe@example.com).</p> <p>Required for American Express SafeKey (U.S.).</p>	Enroll (O)	String (255)
billTo_firstName	<p>Customer's first name. The value should be the same as the value that appears on the card.</p> <p>Required for American Express SafeKey (U.S.).</p>	Enroll (O)	String (60)
billTo_ipAddress	<p>Customer's IP address, such as 10 . 1 . 27 . 63, reported by your web server via socket information.</p>	Enroll (O)	String (45)
billTo_lastName	<p>Customer's last name. The value should be the same as the value that appears on the card.</p> <p>Required for American Express SafeKey (U.S.).</p>	Enroll (O)	String (60)
billTo_passportCountry	<p>Issuing country for the cardholder's passport.</p> <p>Recommended for Discover ProtectBuy.</p>	Enroll (O)	Integer (3)
billTo_passportNumber	<p>The cardholder's passport number.</p> <p>Recommended for Discover ProtectBuy.</p>	Enroll (O)	String (40)
billTo_phoneNumber	<p>Telephone number of the customer.</p> <p>For countries other than US or CA, add the country code at the beginning of the phone number, if possible. Otherwise, the billing country is used to determine the country code.</p>	Enroll (O)	String (15)

Table 14 Request Fields (Continued)

Field Name	Description	Required/ Optional	Type & Length
billTo_postalCode	<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> <p>Required only if the billTo_country field is US or CA.</p>	Enroll (O)	String (10)
billTo_state	State or province of the customer. Required for U.S. and Canada. Use the two-character state, province, or territory codes .	Enroll (O)	String (2)
billTo_street1	First line of the billing street address as it appears on the credit card issuer's records.	Enroll (O)	String (60)
billTo_street2	Additional address information, for example: <i>Attention: Accounts Payable</i>	Enroll (O)	String (60)
businessRules_ignoreValidateResult	<p>Enables you to continue processing the request even if payer authentication cannot be validated. For example, if the PARes is invalid, you receive the reply flag, which enables you to process the authorization. This field can contain one of these values:</p> <ul style="list-style-type: none"> ■ true: Ignore the results of validation and continue to process the request. ■ false: (default) If payer authentication cannot be validated, stop processing the request. 	Validate (O)	String (5)
card_accountNumber	Customer's card number.	Enroll (R) Validate (O)	Integer (20)

Table 14 Request Fields (Continued)

Field Name	Description	Required/ Optional	Type & Length
card_cardType	Type of card. For more information, see <i>Credit Card Services Using the Simple Order API</i> (PDF HTML). This field contain one of these values: <ul style="list-style-type: none"> ■ 001: Visa ■ 002: Mastercard ■ 003: American Express ■ 004: Discover ■ 005: Diners Club ■ 007: JCB ■ 024: Maestro (UK Domestic) ■ 042: Maestro (International) 	Enroll (R) Validate (R)	String (3)
card_expirationMonth	Expiration month (MM) of the card. Required for the Validate service if card_accountNumber is included.	Enroll (R) Validate (O)	String (2)
card_expirationYear	Expiration year (YYYY) of the card. Required for the Validate service if card_accountNumber is included.	Enroll (R) Validate (O)	String (4)
deviceFingerprintData_#_data	Field that contains the device fingerprint data from the specified provider. The value should be Base64 encoded.	Enroll (O)	String (no length limit)
deviceFingerprintData_#_provider	Possible values: <ul style="list-style-type: none"> ■ cardinal ■ inauth ■ threatmetrix 	Enroll (O)	String (32)
item_#_passengerFirstName	Passenger's first name. See " Numbered Elements ," page 112.	Enroll (O)	String (60)
item_#_passengerLastName	Passenger's last name. See " Numbered Elements ," page 112.	Enroll (O)	String (60)
item_#_productDescription	Brief description of item.	Enroll (O)	String (256)
item_#_productName	Name of the product. See " Numbered Elements ," page 112.	Enroll (O)	String (255)
item_#_productSKU	Merchant's product identifier code. See " Numbered Elements ," page 112.	Enroll (O)	String (255)

Table 14 Request Fields (Continued)

Field Name	Description	Required/ Optional	Type & Length
item_#_quantity	Quantity of the product being purchased. The default value is 1. See "Numbered Elements," page 112.	Enroll (O)	Non-negative integer (10)
item_#_unitPrice	Per-item price of the product. This value cannot be negative. The amount will be truncated to the correct number of decimal places. You can include a decimal point (.) in this field, but you cannot include any other special characters. Note The <code>item_#_unitPrice</code> field is not required if the <code>purchaseTotals_grandTotalAmount</code> field is used. See "Numbered Elements," page 112.	Enroll (R) Validate (R)	String (15)

Table 14 Request Fields (Continued)

Field Name	Description	Required/ Optional	Type & Length
merchantDefinedData_ mddField_1 to merchantDefinedData_ mddField_5	<p>Fields that you can use to store information. The value appears in the Case Management Details window in the Business Center. The first four fields are the same fields that are used by the Secure Data services. These fields can only be used if you are referencing target API 1.75 or higher.</p> <p>Important These fields override the old merchant-defined data fields. For example, if you use the obsolete field merchantDefinedData_field15 and the new field merchantDefinedData_mddField_15 in the same request, the new field value overwrites the value specified in the obsolete field.</p> <p>Warning Merchant-defined data fields are not intended to and <i>must not</i> be used to capture personally identifying information. Accordingly, merchants are prohibited from capturing, obtaining, and/or transmitting any personally identifying information in or via the merchant-defined data fields. Personally identifying information includes, but is not limited to, address, credit card number, social security number, driver's license number, state-issued identification number, passport number, and card verification numbers (CVV, CVC2, CVV2, CID, CVN). In the event CyberSource discovers that a merchant is capturing and/or transmitting personally identifying information via the merchant-defined data fields, whether or not intentionally, CyberSource will immediately suspend the merchant's account, which will result in a rejection of any and all transaction requests submitted by the merchant after the point of suspension.</p>	Enroll (O)	String (255)
merchantID	Your CyberSource merchant ID.	Enroll (R) Validate (R)	String (30)
merchantReference Code	<p>Merchant-generated order reference or tracking number.</p> <p>Note If you use the Hybrid integration or Standard integration, you must pass the same value in this field that you pass in the JavaScript.</p>	Enroll (R) Validate (R)	String (50)

Table 14 Request Fields (Continued)

Field Name	Description	Required/ Optional	Type & Length
payerAuthEnrollService_ accountPurchases	Number of purchases with this cardholder account during the previous six months. Recommended for Discover ProtectBuy.	Enroll (O)	Integer (4)
payerAuthEnrollService_ addCardAttempts	Number of add card attempts in the last 24 hours. Recommended for Discover ProtectBuy.	Enroll (O)	Integer (3)
payerAuthEnrollService_ alternateAuthentication Data	Data that documents and supports a specific authentication process.	Enroll (O)	String (2048)
payerAuthEnrollService_ alternateAuthentication Date	Date and time in UTC of the cardholder authentication. Format: YYYYMMDDHHMM	Enroll (O)	Integer (12)
payerAuthEnrollService_ alternateAuthentication Method	Mechanism used by the cardholder to authenticate to the 3D Secure requestor. Possible values: <ul style="list-style-type: none"> ■ 01- No authentication occurred ■ 02- Login using merchant system credentials ■ 03- Login using Federated ID ■ 04- Login using FIDO Authenticator 	Enroll (O)	Integer (2)
payerAuthEnrollService_ authentication TransactionID	Payer authentication transaction identifier passed to link the check enrollment and validate authentication messages. Note Required for Standard integration.	Enroll (O)	String (20)
payerAuthEnrollService_ challengeCode	Possible values: <ul style="list-style-type: none"> ■ 01- No preference ■ 02- No challenge request ■ 03- Challenge requested (3D Secure requestor preference) ■ 04- Challenge requested (mandate) 	Enroll (O)	Integer (2)
payerAuthEnrollService_ challengeRequired	Indicates whether a challenge is required to complete authentication (region mandates). Possible values: <ul style="list-style-type: none"> ■ Y- Challenge required ■ N- Challenge not required 	Enroll (O)	String (1)

Table 14 Request Fields (Continued)

Field Name	Description	Required/ Optional	Type & Length
payerAuthEnrollService_ customerCCAlias	An alias that uniquely identifies the customer's account and credit card on file. Note This field is required if Tokenization is enabled in the merchant profile settings.	Enroll (O)	String (128)
payerAuthEnrollService_ defaultCard	Indicates that the card being used is the one designated as the primary payment card for purchase. This field can contain one of these values: <ul style="list-style-type: none"> ■ true ■ false Recommended for Discover ProtectBuy.	Enroll (O)	String (5)
payerAuthEnrollService_ fraudActivity	Indicates whether the merchant experienced suspicious activity (including previous fraud) on the account. This field can contain one of these values: <ul style="list-style-type: none"> ■ 0: No suspicious activity ■ 1: Suspicious activity observed Recommended for Discover ProtectBuy.	Enroll (O)	Integer (1)
payerAuthEnrollService_ giftCardAmount	The purchase amount total for prepaid gift cards in major units Example: 123.45 USD= 123	Enroll (O)	Integer (15)
payerAuthEnrollService_ giftCardCount	Total count of individual prepaid gift cards purchased.	Enroll (O)	Integer (2)
payerAuthEnrollService_ giftCardCurrency	Currency used for the gift card purchase. Use the standard ISO codes located in the Support Center .	Enroll (O)	Integer (3)
payerAuthEnrollService_ httpAccept	Value of the <code>Accept</code> header sent by the customer's web browser. Note If the customer's browser provides a value, you must include it in your request.	Enroll (O)	String (255)
payerAuthEnrollService_ httpUserAccept	The exact content of the HTTP accept header.	Enroll (O)	String (256)
payerAuthEnrollService_ httpUserAgent	Value of the <code>User-Agent</code> header sent by the customer's web browser. Note If the customer's browser provides a value, you must include it in your request.	Enroll (O)	String (255)

Table 14 Request Fields (Continued)

Field Name	Description	Required/ Optional	Type & Length
payerAuthEnrollService_ installmentTotalCount	An integer value greater than 1 indicating the maximum number of permitted authorizations for installment payments. Note This is required if the merchant and cardholder have agreed to installment payments.	Enroll (O)	Integer (4)
payerAuthEnrollService_ marketingOptIn	Indicates whether the customer has opted in for marketing offers. This field can contain one of these values: <ul style="list-style-type: none"> ■ true ■ false Recommended for Discover ProtectBuy.	Enroll (O)	String (5)
payerAuthEnrollService_ marketingSource	Indicates origin of the marketing offer. Recommended for Discover ProtectBuy.	Enroll (O)	String (40)
payerAuthEnrollService_ MCC	Merchant category code. Important Required only for Verified by Visa transactions in Brazil. Do not use this request field for any other types of transactions.	Enroll (R)	Integer (4)
payerAuthEnrollService_ merchantName	Your company's name as you want it to appear to the customer in the issuing bank's authentication form. This value overrides the value specified by your merchant bank. Required for Verified by Visa travel.	Enroll (O)	String (25)
payerAuthEnrollService_ merchantNewCustomer	Indicates whether the consumer is a new or existing customer with the merchant. This field can contain one of these values: <ul style="list-style-type: none"> ■ true ■ false 	Enroll (O)	String (5)/
payerAuthEnrollService_ merchantURL	Address of your company's web site, for example, http://www.example.com. This value overrides the value specified by your merchant bank.	Enroll (O)	String (100)
payerAuthEnrollService_ messageCategory	Category of the message for a specific use case. Possible values: <ul style="list-style-type: none"> ■ 01- PA ■ 02- NPA 	Enroll (O)	Integer (2)

Table 14 Request Fields (Continued)

Field Name	Description	Required/ Optional	Type & Length
payerAuthEnrollService_ mobilePhone	Cardholder's mobile phone number. Important Required for Verified by Visa transactions in Brazil. Do not use this request field for any other types of transactions.	Enroll (O)	Integer (25)
payerAuthEnrollService_ npaCode	Non-Payer Authentication Indicator. Possible values: <ul style="list-style-type: none"> ■ 01- Add card ■ 02- Maintain card information ■ 03- Cardholder verification for EMV token ■ 04- 80 Reserved for EMVCo, 80-90 Reserved DS 	Enroll (O)	Integer (2)
payerAuthEnrollService_ overridePaymentMethod	Specifies the Brazilian payment account type used for the transaction. This field overrides other payment types that might be specified in the request. Use one of the following values for this field: <ul style="list-style-type: none"> ■ NA: Not applicable. Do not override other payment types that are specified in the request. ■ CR: Credit card. ■ DB: Debit card. ■ VSAVR: Visa Vale Refeicao ■ VSAVA: Visa Vale Alimentacao Important Required only for Verified by Visa transactions in Brazil. Do not use this request field for any other types of transactions.	Enroll (R)	String (10)
payerAuthEnrollService_ paymentAccountDate	Date the payment account was added to the cardholder account. This field can contain one of these values: <ul style="list-style-type: none"> ■ -1: Guest account ■ 0: Added during this transaction If neither of these apply, enter the date in YYYYMMDD format. Recommended for Discover ProtectBuy.	Enroll (O)	Integer (8)

Table 14 Request Fields (Continued)

Field Name	Description	Required/ Optional	Type & Length
payerAuthEnrollService_ preorder	Indicates whether cardholder is placing an order with a future availability or release date. This field can contain one of these values: <ul style="list-style-type: none"> 0: Merchandise available 1: Future availability 	Enroll (O)	Integer (1)
payerAuthEnrollService_ preorderDate	Expected date that a pre-ordered purchase will be available. Format: YYYYMMDD	Enroll (O)	Integer (8)
payerAuthEnrollService_ productCode	Specifies the product code, which designates the type of transaction. Specify one of the following values for this field: <ul style="list-style-type: none"> AIR: Airline purchase Important Required for American Express SafeKey (U.S.). <ul style="list-style-type: none"> ACC: Accommodation Rental ACF: Account funding CHA: Check acceptance DIG: Digital Goods DSP: Cash Dispensing GAS: Fuel GEN: General Retail LUX: Luxury Retail PAL: Prepaid activation and load PHY: Goods or services purchase QCT: Quasi-cash transaction REN: Car Rental RES: Restaurant SVC: Services TBD: Other TRA: Travel Important Required for Verified by Visa transactions in Brazil. Do not use this request field for any other types of transactions.	Enroll (O)	String (3)

Table 14 Request Fields (Continued)

Field Name	Description	Required/ Optional	Type & Length
payerAuthEnrollService_ recurringEndDate	The date after which no further recurring authorizations should be performed. Format: YYYYMMDD. Note This field is required for recurring transactions.	Enroll (O)	Integer (8)
payerAuthEnrollService_ recurringFrequency	Integer value indicating the minimum number of days between recurring authorizations. A frequency of monthly is indicated by the value 28. Multiple of 28 days will be used to indicate months. Example: 6 months= 168 Note This field is required for recurring transactions.	Enroll (O)	Integer (3)
payerAuthEnrollService_ recurringOriginalPurchase Date	Date of original purchase. Required for recurring transactions. Format: YYYYMMDD:HH:MM:SS Note If this field is empty, the current date is used.	Enroll (O)	String (17)
payerAuthEnrollService_ referenceID	Reference ID that corresponds to the device fingerprinting data that was collected previously. Note Required for Hybrid integration.	Enroll (R)	String (50)
payerAuthEnrollService_ reorder	Indicates whether the cardholder is reordering previously purchased merchandise. This field can contain one of these values: <ul style="list-style-type: none">■ 0: First time ordered■ 1: Reordered	Enroll (O)	Integer (1)
payerAuthEnrollService_ run	Whether to include payerAuthEnrollService in your request. The field has one of these values: <ul style="list-style-type: none">■ <code>true</code>: Include the service in your request.■ <code>false</code> (default): Do not include the service in your request.	Enroll (R)	String (5)

Table 14 Request Fields (Continued)

Field Name	Description	Required/ Optional	Type & Length
payerAuthEnrollService_ shipAddressUsageDate	<p>Date when the shipping address for this transaction was first used.</p> <p>This field can contain one of these values:</p> <ul style="list-style-type: none"> ■ -1: Guest account ■ 0: First used during this transaction <p>If neither of these apply, enter the date in YYYYMMDD format.</p> <p>Recommended for Discover ProtectBuy.</p>	Enroll (O)	Integer (8)
payerAuthEnrollService_ transactionCountDay	<p>Number of transaction (successful or abandoned) for this cardholder account within the last 24 hours.</p> <p>Recommended for Discover ProtectBuy.</p>	Enroll (O)	Integer (3)
payerAuthEnrollService_ transactionCountYear	<p>Number of transactions (successful and abandoned) for this cardholder account within the last year.</p> <p>Recommended for Discover ProtectBuy.</p>	Enroll (O)	Integer (3)
payerAuthEnrollService_ transactionMode	<p>Transaction mode identifier. Identifies the channel from which the transaction originates.</p> <p>Possible values:</p> <ul style="list-style-type: none"> ■ M – MOTO (Mail Order Telephone Order) ■ R – Retail ■ S – eCommerce ■ P – Mobile Device ■ T – Tablet 	Enroll (O)	String (1)
payerAuthValidateService_ _authentication TransactionID	<p>Payer authentication transaction identifier passed to link the check enrollment and validate authentication messages.</p> <p>Note Required for Hybrid integration.</p>	Validate (O)	String (20)
payerAuthValidate Service_signedPAREs	<p>Payer authentication result (PAREs) message returned by the card-issuing bank. If you need to show proof of enrollment checking, you may need to decrypt and parse the string for the information required by the payment card company. For more information, see "Storing Payer Authentication Data," page 163.</p> <p>Note The field is in base64. You must remove all carriage returns and line feeds before adding the PAREs to the request.</p>	Validate (R)	String (no limit, may be very large)

Table 14 Request Fields (Continued)

Field Name	Description	Required/ Optional	Type & Length
payerAuthValidate Service_run	Whether to include payerAuthValidateService in your request. The field can contain one of these values: <ul style="list-style-type: none"> ■ <code>true</code>: Include the service in your request. ■ <code>false</code> (default): Do not include the service in your request. 	Validate (R)	String (5)
purchaseTotals_currency	Currency used for the order. Use the standard ISO codes located in the Support Center .	Enroll (R) Validate (R)	String (5)
purchaseTotals_ grandTotalAmount	Grand total for the order. In your request, you must include either this field or item_#_unitPrice . For more information, see <i>Credit Card Services Using the Simple Order API</i> (PDF HTML). Note The purchaseTotals_grandTotalAmount field is not optional if the item_#_unitPrice field is not used.	Enroll (O) Validate (O)	String (15)
shipTo_city	City of the shipping address. Required if any shipping address information is included. Required for American Express SafeKey (U.S.).	Enroll (O)	String (50)
shipTo_country	Country of the shipping address. Use the two-character ISO Standard Country Codes . Required for American Express SafeKey (U.S.).	Enroll (O)	String (2)
shipTo_destinationCode	Indicates destination chosen for the transaction. Possible values: <ul style="list-style-type: none"> ■ 01- Ship to cardholder billing address ■ 02- Ship to another verified address on file with merchant ■ 03- Ship to address that is different than billing address ■ 04- Ship to store (store address should be populated on request) ■ 05- Digital goods ■ 06- Travel and event tickets, not shipped ■ 07- Other 	Enroll (O)	Integer (2)
shipTo_firstName	First name of the recipient.	Enroll (O)	String (60)

Table 14 Request Fields (Continued)

Field Name	Description	Required/ Optional	Type & Length
shipTo_lastName	Last name of the recipient.	Enroll (O)	String (60)
shipTo_phoneNumber	Phone number for the shipping address. For information on formatting, see billTo_phoneNumber .	Enroll (O)	String (15)
shipTo_postalCode	Postal code for the shipping address. The postal code must consist of 5 to 9 digits. When the shipping country is the U.S., the 9-digit postal code must follow this format: [5 digits][dash][4 digits] Example 12345-6789 When the shipping country is Canada, the 6-digit postal code must follow this format: [alpha][numeric][alpha][space] [numeric][alpha][numeric] Example A1B 2C3 Required only if the shipTo_country field is US or CA. Required for American Express SafeKey (U.S.).	Enroll (O)	String (10)
shipTo_shippingMethod	Shipping method for the product. Possible values: <ul style="list-style-type: none"> ■ lowcost: Lowest-cost service ■ sameday: Courier or same-day service ■ oneday: Next-day or overnight service ■ twoday: Two-day service ■ threeday: Three-day service ■ pickup: Store pick-up ■ other: Other shipping method ■ none: No shipping method because product is a service or subscription Required for American Express SafeKey (U.S.).	Enroll (O)	String (10)
shipTo_state	State or province of the shipping address. Use the State, Province, and Territory Codes for the United States and Canada . Required if shipTo_country is CA or US. Required for American Express SafeKey (U.S.).	Enroll (O)	String (2)

Table 14 Request Fields (Continued)

Field Name	Description	Required/ Optional	Type & Length
shipTo_street1	First line of the shipping address. Required if any shipping address information is included. Required for American Express SafeKey (U.S.).	Enroll (O)	String (60)
shipTo_street2	Second line of the shipping address. Required for American Express SafeKey (U.S.).	Enroll (O)	String (60)

Reply Fields

Table 15 Reply Fields

Field Name	Description	Returned By	Type & Length
decision	Summarizes the result of the overall request. The field can contain one of these values: <ul style="list-style-type: none"> ■ ACCEPT ■ ERROR ■ REJECT 	Enroll Validate	String (255)
invalidField_0 through invalidField_N	Fields in the request that contained invalid data.	Enroll Validate	String (255)
merchantReferenceCode	Your order reference or tracking number.	Enroll Validate	String (255)
missingField_0 through missingField_N	Required fields that were missing from the request.	Enroll Validate	String (255)
payerAuthEnrollReply_ acsURL	URL for the card-issuing bank's authentication form that you receive when the card is enrolled. The field length can be very large.	Enroll	String (no length limit)

Table 15 Reply Fields (Continued)

Field Name	Description	Returned By	Type & Length
payerAuthEnrollReply_authenticationPath	<p>Indicates what displays to the customer during the authentication process. This field can contain one of these values:</p> <ul style="list-style-type: none"> ■ ADS: (Card not enrolled) customer prompted to activate the card during the checkout process. ■ ATTEMPTS: (Attempts processing) <i>Processing...</i> briefly displays before the checkout process is completed. ■ ENROLLED: (Card enrolled) the card issuer's authentication window displays. ■ UNKNOWN: Card enrollment status cannot be determined. ■ NOREDIRECT: (Card not enrolled, authentication unavailable, or error occurred) nothing displays to the customer. <p>The following values can be returned if you are using rules-based payer authentication. See "Rules-Based Payer Authentication," page 181:</p> <ul style="list-style-type: none"> ■ RIBA: The card-issuing bank supports risk-based authentication, but whether the cardholder is likely to be challenged cannot be determined. ■ RIBA_PASS: The card-issuing bank supports risk-based authentication and it is likely that the cardholder will not be challenged to provide credentials, also known as <i>silent authentication</i>. 	Enroll	String (255)
payerAuthEnrollReply_authenticationResult	<p>Raw authentication data that comes from the card-issuing bank. Primary authentication field that indicates if authentication was successful and if liability shift occurred. You should examine first the result of this field. This field contains one of these values:</p> <ul style="list-style-type: none"> ■ -1: Invalid PAREs. ■ 0: Successful validation. ■ 1: Cardholder is not participating, but the attempt to authenticate was recorded. ■ 6: Issuer unable to perform authentication. ■ 9: Cardholder did not complete authentication. 	Enroll	String w/ numbers only (255)

Table 15 Reply Fields (Continued)

Field Name	Description	Returned By	Type & Length
payerAuthEnrollReply_authenticationStatusMessage	Message that explains the content of payerAuthEnrollReply_authenticationResult .	Enroll	String (255)
payerAuthEnrollReply_authenticationTransactionID	Payer authentication transaction identifier passed to link the check enrollment and validate authentication messages.	Enroll	String (20)
payerAuthEnrollReply_cavv	<p>Unique identifier generated by the card-issuing bank after the customer is authenticated. The value is in base64. When you request the card authorization service, CyberSource automatically converts the value, not the field name, to the format required by your payment processor.</p> <p>Note This field is generated only for Verified by Visa, American Express SafeKey, JCB, Diners Club, and Discover transactions.</p>	Enroll	String (255)
payerAuthEnrollReply_cavvAlgorithm	<p>Field returned when payerAuthEnrollReply_paresStatus contains the values Y (successful authentication) or A (attempted authentication). This field contains one of these values:</p> <ul style="list-style-type: none"> ■ 2: Visa, American Express, JCB, Diners Club, and Discover ■ 3: Mastercard and Maestro <p>Note This field only applies if you use the Atos processor. If you use Atos, send the value of this field in the ccAuthService_cavvAlgorithm request field of the authorization service.</p>	Enroll	Integer (1)

Table 15 Reply Fields (Continued)

Field Name	Description	Returned By	Type & Length
payerAuthEnrollReply_commerceIndicator	<p>Commerce indicator for cards not enrolled. This field contains one of these values:</p> <ul style="list-style-type: none"> ■ <code>internet</code>: Card not enrolled, or card type not supported by payer authentication. No liability shift. ■ <code>js_attempted</code>: JCB card not enrolled, but attempt to authenticate is recorded. Liability shift. ■ <code>js_failure</code>: You receive this result if JCB's directory service is not available. No liability shift. ■ <code>spa</code>: Mastercard card not enrolled. No liability shift. ■ <code>vbv_attempted</code>: Visa card not enrolled, but attempt to authenticate is recorded. Liability shift. ■ <code>vbv_failure</code>: For the payment processors Barclays, Streamline, AIBMS, or FDC Germany, you receive this result if Visa's directory service is not available. No liability shift. 	Enroll	String (255)
payerAuthEnrollReply_eci	<p>Note This field applies only to non U.S.-issued cards.</p> <p>Numeric electronic commerce indicator (ECI) returned only for Visa, American Express, JCB, Diners Club, and Discover transactions when the card is not enrolled. For more information, see "Requesting the Check Enrollment Service (Standard)," page 19.</p> <p>If you are not using the CyberSource payment services, you must send this value to your payment processor in the subsequent request for card authorization. This field contains one of these values:</p> <ul style="list-style-type: none"> ■ <code>06</code>: The card can be enrolled. Liability shift. ■ <code>07</code>: The card cannot be enrolled. No liability shift. 	Enroll	String (255)

Table 15 Reply Fields (Continued)

Field Name	Description	Returned By	Type & Length
payerAuthEnrollReply_eciRaw	<p>ECI value that can be returned for Visa, Mastercard, American Express, JCB, Diners Club, and Discover. The field is absent when authentication fails. If your payment processor is Streamline, you must pass the value of this field instead the value of payerAuthEnrollReply_eci or payerAuthEnrollReply_ucafCollectionIndicator.</p> <p>This field can contain one of these values:</p> <ul style="list-style-type: none"> ■ 01: Authentication attempted (Mastercard) ■ 02: Successful authentication (Mastercard) ■ 05: Successful authentication (Visa, American Express, JCB, Diners Club, and Discover) ■ 06: Authentication attempted (Visa, American Express, JCB, Diners Club, and Discover) 	Enroll	String (255)
payerAuthEnrollReply_paReq	<p>Payer authentication request (PAREq) message that you need to forward to the ACS. The field length can be very large. The value is in base64.</p>	Enroll	String (No length limit)
payerAuthEnrollReply_paresStatus	<p>Raw result of the authentication check. This field can contain one of these values:</p> <ul style="list-style-type: none"> ■ A: Proof of authentication attempt was generated. ■ B: Bypassed authentication. ■ N: Customer failed or canceled authentication. Transaction denied. ■ R: Authentication rejected (used for 3D Secure 2.0 transactions only) ■ U: Authentication not completed regardless of the reason. ■ Y: Customer was successfully authenticated. <p>Note This field only applies to the Asia, Middle East, and Africa Gateway. If you are configured for this processor, you must send the value of this field in your authorization request.</p>	Enroll	String (255)

Table 15 Reply Fields (Continued)

Field Name	Description	Returned By	Type & Length
payerAuthEnrollReply_ proofXML	<p>Date and time of the enrollment check combined with the VEReq and VERes elements. If you ever need to show proof of enrollment checking, you will need to parse the string for the information required by the payment card company. For more information, see "Storing Payer Authentication Data," page 163. The value can be very large.</p> <ul style="list-style-type: none"> ■ For cards issued in the U.S. or Canada, Visa may require this data for specific merchant category codes. ■ For cards not issued in the U.S. or Canada, your bank may require this data as proof of enrollment checking for any payer authentication transaction that you re-present because of a chargeback. 	Enroll	String (no length limit)
payerAuthEnrollReply_ proxyPAN	Encrypted version of the card number used in the payer authentication request message.	Enroll	String (255)
payerAuthEnrollReply_ reasonCode	Numeric value corresponding to the result of the Enrollment Check service request. For a list of possible values, see Appendix B, "Reason Codes," on page 142 .	Enroll	Integer (5)
payerAuthEnrollReply_ specificationVersion	This field contains the 3D Secure version that was used to process the transaction. For example, 1.0.2 or 2.0.0.	Enroll	String (20)
payerAuthEnrollReply_ ucafAuthenticationData	<p>AAV is a unique identifier generated by the card-issuing bank after the customer is authenticated. The value is in base64. Include the data in the card authorization request.</p> <p>Note This field is returned for only Mastercard SecureCode transactions.</p>	Enroll	String (255)
payerAuthEnrollReply_ ucafCollectionIndicator	<p>Indicates that authentication is not required because the customer is not enrolled. Add the value of this field to the authorization field ucaf_collectionIndicator. This field can contain these values: 0, 1.</p> <p>Note This field is returned for only Mastercard SecureCode transactions.</p>	Enroll	String (255)

Table 15 Reply Fields (Continued)

Field Name	Description	Returned By	Type & Length
payerAuthEnrollReply_ veresEnrolled	<p>Result of the enrollment check. This field can contain one of these values:</p> <ul style="list-style-type: none"> ■ Y: Card enrolled; you must authenticate. Liability shift. ■ N: Card not enrolled; proceed with authorization. Liability shift. ■ U: Unable to authenticate regardless of the reason. No liability shift. <p>Note This field only applies to the Asia, Middle East, and Africa Gateway. If you are configured for this processor, you must send the value of this field in your authorization request.</p> <p>The following value can be returned if you are using rules-based Payer Authentication. See "Rules-Based Payer Authentication," page 181:</p> <ul style="list-style-type: none"> ■ B: Indicates that authentication was bypassed. 	Enroll	String (255)
payerAuthEnrollReply_xid	Transaction identifier generated by CyberSource for successful enrollment checks. Use this value to match an outgoing PAREq with an incoming PAREs. If your payment processor is Barclays, CyberSource forwards the XID with your card authorization service request. The value is in base64.	Enroll	String (255)
payerAuthValidateReply_ authenticationResult	<p>Raw authentication data that comes from the card-issuing bank. Primary authentication field that indicates if authentication was successful and if liability shift occurred. You should examine first the result of this field. This field contains one of these values:</p> <ul style="list-style-type: none"> ■ -1: Invalid PAREs. ■ 0: Successful validation. ■ 1: Cardholder is not participating, but the attempt to authenticate was recorded. ■ 6: Issuer unable to perform authentication. ■ 9: Cardholder did not complete authentication. 	Validate	String w/ numbers only (255)
payerAuthValidateReply_ authenticationStatus Message	<p>Message that explains the content of payerAuthValidateReply_authenticationResult.</p>	Validate	String (255)

Table 15 Reply Fields (Continued)

Field Name	Description	Returned By	Type & Length
payerAuthValidateReply_cavv	<p>Unique identifier generated by the card-issuing bank after the customer is authenticated. The value is in base64. When you request the card authorization service, CyberSource automatically converts the value, not the field name, to the format required by your payment processor.</p> <p>Note This field is generated only for Verified by Visa, American Express SafeKey, JCB, Diners Club, and Discover transactions.</p>	Validate	String (255)
payerAuthValidateReply_cavvAlgorithm	<p>Field returned when payerAuthValidateReply_paresStatus contains the values Y (successful authentication) or A (attempted authentication). This field contains one of these values:</p> <ul style="list-style-type: none"> ■ 2: Visa, American Express, JCB, Diners Club, and Discover ■ 3: Mastercard and Maestro <p>Note This field only applies if you use the Atos processor. If you use Atos, send the value of this field in the ccAuthService_cavvAlgorithm request field of the authorization service.</p>	Validate	Integer (1)

Table 15 Reply Fields (Continued)

Field Name	Description	Returned By	Type & Length
payerAuthValidateReply_commerceIndicator	<p>Indicator used to differentiate different types of transactions. The authentication failed if this field is not returned. The value of this field is passed automatically to the authorization service if you request the services together. This field contains one of these values:</p> <ul style="list-style-type: none"> ■ aesk: American Express SafeKey authentication verified successfully. ■ aesk_attempted: Card not enrolled in American Express SafeKey, but the attempt to authenticate was recorded. ■ dipb: Discover ProtectBuy authentication verified successfully. ■ dipb_attempted: Card not enrolled in Discover ProtectBuy, but the attempt to authenticate was recorded. ■ internet: Authentication failed. ■ js: J/Secure authentication verified successfully. ■ js_attempted: Card not enrolled in J/Secure, but the attempt to authenticate was recorded. ■ moto: Mail or telephone order. ■ pb_attempted: Card not enrolled in Diners Club ProtectBuy, but the attempt to authenticate was recorded. ■ recurring: Recurring transaction. ■ spa: Mastercard SecureCode authentication verified successfully. ■ spa_failure: Mastercard SecureCode failed authentication. ■ vbv: Verified by Visa authentication verified successfully. ■ vbv_attempted: Card not enrolled in Verified by Visa, but the attempt to authenticate was recorded. ■ vbv_failure: Verified by Visa authentication unavailable. <p>Note For Visa, if the payment processor is Streamline, Barclays, AIBMS, or FDC Germany, you receive vbv_failure instead of internet when payerAuthValidateReply_eci is 07.</p>	Validate	String (255)

Table 15 Reply Fields (Continued)

Field Name	Description	Returned By	Type & Length
payerAuthValidateReply_eci	<p>Numeric electronic commerce indicator (ECI) returned only for Visa, American Express, JCB, Diners Club, and Discover transactions. You must send this value to your payment processor in the subsequent request for card authorization. This field contains one of these values:</p> <ul style="list-style-type: none"> ■ 05: Successful authentication ■ 06: Authentication attempted ■ 07: Failed authentication (No response from the merchant because of a problem.) 	Validate	String (255)
payerAuthValidateReply_eciRaw	<p>ECI value that can be returned for Visa, Mastercard, American Express, JCB, Diners Club, and Discover. The field is absent when authentication fails. If your payment processor is Streamline, you must pass the value of this field instead the value of payerAuthValidateReply_eci or payerAuthValidateReply_ucafCollectionIndicator.</p> <p>This field can contain one of these values:</p> <ul style="list-style-type: none"> ■ 01: Authentication attempted (Mastercard) ■ 02: Successful authentication (Mastercard) ■ 05: Successful authentication (Visa, American Express, JCB, Diners Club, and Discover) ■ 06: Authentication attempted (Visa, American Express, JCB, Diners Club, and Discover) 	Validate	String (255)

Table 15 Reply Fields (Continued)

Field Name	Description	Returned By	Type & Length
payerAuthValidateReply_ paresStatus	<p>Raw result of the authentication check. This field can contain one of these values:</p> <ul style="list-style-type: none"> ■ A: Proof of authentication attempt was generated. ■ B: Bypassed authentication ■ N: Customer failed or canceled authentication. Transaction denied. ■ R: Authentication rejected (used for 3D Secure 2.0 transactions only) ■ U: Authentication not completed regardless of the reason. ■ Y: Customer was successfully authenticated. <p>Note This field applies only to the Asia, Middle East, and Africa Gateway. If your system is configured for this processor, you must send the value of this field in your authorization request.</p>	Validate	String (255)
payerAuthValidateReply_ reasonCode	Numeric value corresponding to the result of the validation request. For a list of possible values, see Appendix B, "Reason Codes," on page 142 .	Validate	Integer (5)
payerAuthValidateReply_ specificationVersion	This field contains the 3D Secure version that was used to process the transaction. For example, 1.0.2 or 2.0.0.	Validate	String (20)
payerAuthValidateReply_ ucafAuthenticationData	<p>AAV is a unique identifier generated by the card-issuing bank after the customer is authenticated. The value is in base64. Include the data in the card authorization request.</p> <p>Note This field is returned for only Mastercard SecureCode transactions.</p>	Validate	String (255)

Table 15 Reply Fields (Continued)

Field Name	Description	Returned By	Type & Length
payerAuthValidateReply_ ucafCollectionIndicator	<p>Numeric electronic commerce indicator (ECI). The field is absent when authentication fails. You must send this value to your payment processor in the request for card authorization. This field contain one of these values:</p> <ul style="list-style-type: none"> 0: UCAF collection is not supported at your web site. Customer authentication was not completed. 1: UCAF collection is supported at your web site, but UCAF was not populated. Customer authentication was not completed. 2: UCAF collection is supported at your web site, and UCAF was populated. Customer completed authentication. <p>Note This field is returned for only Mastercard SecureCode transactions.</p>	Validate	String (255)
payerAuthValidateReply_ xid	<p>Transaction identifier generated by CyberSource for validation checks. Use this value, which is in base64, to match the PAREq with the PAREs. CyberSource forwards the XID with the card authorization service to these payment processors:</p> <ul style="list-style-type: none"> Barclays Streamline when the commerce indicator is <code>spa</code> 	Validate	String (255)
purchaseTotals_currency	Currency used for the order. Use the standard ISO codes located in the Support Center .	Enroll Validate	String (255)
reasonCode	Numeric value corresponding to the result of the overall request. See Appendix B, "Reason Codes," on page 142 for a list of possible values.	Enroll Validate	Integer (5)
requestID	Identifier for the request.	Enroll Validate	String (255)
requestToken	<p>Identifier for the request generated by CyberSource.</p> <p>Request token data created by CyberSource for each reply. The field is an encoded string that contains no confidential information such as an account or card verification number. The string can contain a maximum of 256 characters.</p>	Enroll Validate	String (256)

Reason Codes

The following table lists the reason codes that are returned with the reply. CyberSource reserves the right to add new reason codes at any time. If your error handler receives a reason code that it does not recognize, it should use the decision field to determine the result.

Table 16 Reason Codes

Reason Code	Description
100	Successful transaction.
101	The request is missing one or more required fields. Possible action: See the reply fields missingField_0 through missingField_N for the missing fields. Resend the request with the complete information.
102	One or more fields in the request contains invalid data. Possible action: See the reply fields invalidField_0 through invalidField_N for the invalid fields. Resend the request with the correct information.
150	Error: General system failure. Possible action: Wait a few minutes and resend the request.
151	Error: The request was received, but a server time-out occurred. This error does not include time-outs between the client and the server. Possible action: Wait a few minutes and resend the request.
152	Error: The request was received, but a service time-out occurred. Possible action: Wait a few minutes and resend the request.
234	A problem exists with your CyberSource merchant configuration. Possible action: Do not resend the request. Contact Customer Support to correct the configuration problem.
475	The customer is enrolled in payer authentication. Authenticate the cardholder before continuing with the transaction.
476	The customer cannot be authenticated. Possible action: Review the customer's order.

Request and Reply Examples

This appendix contains examples for the check enrollment service and the validate authentication service. All examples are in name-value pair format.



These examples contain only the fields essential to the demonstration. Do not prepare your implementation according to the fields shown in these examples. They are provided for your information only.

Standard Integration Examples

The following is an example of a request for the check enrollment service:

Check Enrollment Request Example

Example 6 Check Enrollment

```
payerAuthEnrollService_run=true  
merchantID=patest  
merchantReferenceCode=23AEE8CB6B62EE2AF07  
item_0_unitPrice=19.99  
purchaseTotals_currency=USD  
card_expirationMonth=01  
card_expirationYear=2020  
card_accountNumber=xxxxxxxxxxxxxxxxxx  
card_cardType=001  
payerAuthEnrollService_authenticationTransactionID=F18d1UW9VwTyawKTdex0
```

Check Enrollment Reply Examples

Example 7 Transaction Reply for Visa Card with Verified by Visa

```
requestID=0340290070000167905080
merchantReferenceCode=23AEE8CB6B62EE2AF07
purchaseTotals_currency=USD
decision=ACCEPT
reasonCode=100
payerAuthEnrollReply_reasonCode=100
payerAuthEnrollReply_authenticationResult=0
payerAuthEnrollReply_authenticationStatusMessage=Success
payerAuthEnrollReply_authenticationTransactionID=F18d1UW9VwTyawKTdex0
payerAuthEnrollReply_cavv=Y2FyZGluYWxjb21tZXJjZWFlbGg=
payerAuthEnrollReply_commerceIndicator=vbv
payerAuthEnrollReply_eci=5
payerAuthEnrollReply_eciRaw=05
payerAuthEnrollReply_paresStatus=Y
payerAuthEnrollReply_reasonCode=100
payerAuthEnrollReply_specificationVersion=2.0.1
payerAuthEnrollReply_veresEnrolled=Y
```

Hybrid Integration Examples

Check Enrollment Request Example

Example 8 Check Enrollment

```
payerAuthEnrollService_run=true
merchantID=patest
merchantReferenceCode=23AEE8CB6B62EE2AF07
item_0_unitPrice=19.99
purchaseTotals_currency=USD
card_expirationMonth=01
card_expirationYear=2020
card_accountNumber=xxxxxxxxxxxxxxxxxx
card_cardType=001
...
<Other 2.0 optional fields>
referenceID=CybsTester-778d0f67
```

Check Enrollment Reply Example

Example 9 Transaction Reply for Mastercard with SecureCode

```
requestID=0340290070000167905080
merchantReferenceCode=23AEE8CB6B62EE2AF07
purchaseTotals_currency=USD
decision=REJECT
reasonCode=475
payerAuthEnrollReply_reasonCode=475
payerAuthEnrollReply_acsURL=https://www.example.com
payerAuthEnrollReply_authenticationTransactionID=x0Jpbq2uIT7o0tQqwd60
payerAuthEnrollReply_paReq=value in base64:
eJxVUuFyggjAMfhXPw9Tkv9g6...
payerAuthEnrollReply_specificationVersion=2.0.1
payerAuthEnrollReply_veresEnrolled=Y
request_
token=AhjzbwSTHCfKtXsaE6eleEQJP+BFNcZtIHTiD9au3tjijj5Uar+AuAAAAkAY5
```

Validate Authentication Request Example

Example 10 Validate Authentication Request

```
payerAuthValidateService_run=true
merchantID=patest
merchantReferenceCode=23AEE8CB6B62EE2AF07
item_0_unitPrice=19.99
purchaseTotals_currency=USD
card_expirationMonth=01
card_expirationYear=2020
card_accountNumber=xxxxxxxxxxxxxxxx
card_cardType=001
payerAuthValidateService_authenticationTransactionID=
UhGFMw6IPZbgt9diHK0
referenceID=CybsTester-cc719e84
```

Validate Authentication Reply Example

Example 11 Transaction Reply for Mastercard with SecureCode

```
requestID=0340290070000167905080
merchantReferenceCode=23AEE8CB6B62EE2AF07
purchaseTotals_currency=USD
decision=ACCEPT
reasonCode=100
payerAuthValidateReply_reasonCode=100
payerAuthValidateReply_authenticationResult=0
payerAuthValidateReply_authenticationStatusMessage=Success
payerAuthValidateReply_cavv=Y2FyZGluYWxjb21tZXJjZWFlbGg=
payerAuthValidateReply_commerceIndicator=vbv
payerAuthValidateReply_eci=5
payerAuthValidateReply_eciRaw=05
payerAuthValidateReply_paresStatus=Y
payerAuthValidateReply_reasonCode=100
payerAuthValidateReply_specificationVersion=2.0.1
request_
token=AhjzbwSTHCfKtXsaE6eIQJP+BFNcZtIHTiD9au3tji jj5Uar+AuAAAAkAY5
```

Web Site Modification Reference

This appendix contains information about modifying your web site to integrate CyberSource Payer Authentication services into your checkout process. It also provides links to payment card company web sites where you can download the appropriate logos.

Web Site Modification Checklist

1 Modify web page buttons:

- Order submission button: disable the final “buy” button until the customer completes all payment and authentication requirements.
- Browser back button: account for unexpected customer behavior. Use session checks throughout the authentication process to prevent authenticating transactions twice. Avoid confusing messages, such as warnings about expired pages.

2 Add appropriate logos:

- Make sure you have downloaded the appropriate logos of the cards that you support and place these logos next to the card information entry fields on your checkout pages. For more information about obtaining logos and using them, see ["3D Secure Services Logos," page 150](#).

3 Add informational message:

- Add a message next to the final “buy” button and the card logo to inform your customers that they may be prompted to provide their authentication password or to sign up for the authentication program specific to their card. For examples of messages you can use, see ["Informational Message Examples," page 151](#).

3D Secure Services Logos

The following table contains links to payment card company web sites from which you can download logos and information about how to incorporate them into your online checkout process.

Table 17 3D Secure Services Logos Download Location

3D Secure Service	Download Location
Verified by Visa	http://usa.visa.com/merchants/grow-your-business/payment-technologies/verified-by-visa.jsp This web site contains information about Verified by Visa and links to logos for download. The page also contains links to a best practice guide for implementing Verified by Visa and a link to a Merchant Toolkit. See the list of links at the right margin of the web page to download these files.
Mastercard and Maestro SecureCode	http://www.mastercard.us/merchants/securecode.html This web site contains information about SecureCode, links to logos for download, and information about integrating the SecureCode information into your web site checkout page. For information about Maestro logos, go to: http://www.mastercardbrandcenter.com/us/howtouse/bms_mae.shtml
American Express SafeKey	https://network.americanexpress.com/uk/en/safekey/ This web site contains information about SafeKey and links to logos for download.
JCB J/Secure	http://partner.jcbcard.com/security/jsecure/logo.html This web site contains information about J/Secure and links to logos for download.
Diners Club ProtectBuy	http://www.dinersclubprotect-buy.net/Public/MerchantTools.aspx This web site contains information about Diners Club ProtectBuy and links to logos for download.
Discover ProtectBuy	https://www.discovernetwork.com/en-us/business-resources/free-signage-logos This web site contains information about Discover ProtectBuy and links to logos for download.

Informational Message Examples

Add a brief message adjacent to your final buy button on your checkout page to inform customers that they may be prompted to provide their authentication password or to enroll in the authentication program for their card.

The following examples may be used, but consult your specific card authentication program to make sure you conform to their messaging requirements.

Example 12

To help prevent unauthorized use of `<card_type>` cards online, `<your_business_name>` participates in `<card_authentication_program>`.

When you submit your order, you may receive a `<card_authentication_program>` message from your `<card_type>` card issuer. If your card or issuer does not participate in the program, you will be returned to our secure checkout to complete your order. Please wait while the transaction is processed. Do not click the Back button or close the browser window.

Example 13

Your card may be eligible for enrollment or is enrolled in the Verified by Visa, Mastercard or Maestro SecureCode, American Express SafeKey, JCB J/Secure, Diners Club ProtectBuy, or Discover ProtectBuy programs. After you submit your order, your card issuer may prompt you for your password before you complete your purchase.

Payer Authentication Transaction Details in the Business Center

This appendix describes how to search the Business Center for details of transactions that are screened by CyberSource Payer Authentication. Transaction data is stored for 12 months so that you can send it to payment card companies if necessary.

Searching for Payer Authentication Details

Payer authentication data that is returned in API reply fields can be searched by using Transaction Search in the Business Center.

With other services, green means that the service request was successful, red means that it failed, and black means that the service request was not run. However, you need to interpret the result of the enrollment check differently:

- If the card is enrolled, the application result is shown in red, which indicates that you need to authenticate the user before you can request card authorization.
- If the card is not enrolled, the application result is shown in green because you do not need to authenticate the user. You can authorize the card immediately.

Enrolled Card

When a card is enrolled, the process consists of two steps: after you check for enrollment, you need to authenticate the customer.

Enrollment Check

The following figure shows the details page of an enrollment check for an enrolled card. You receive payer authentication information in several locations:

- Request Information section: The enrollment check service is shown in red because the card is enrolled. You receive the corresponding reply information (blue boxes). If the card authorization service had been requested at the same time, it would not have been run and would appear in black.

You can obtain additional information about related orders by clicking the links on the right (Event Search and Details).

- Payment Information section: When authentication is required, save the XID for use later. You do not receive an ECI or AAV_CAVV because the authentication is not complete.

When you receive a result similar to the following figure, you need to authenticate the user by requesting the validation service.

Figure 5 Enrollment Check Details

Transaction Search Details

[I need help with this page.](#)

Request Information	
Merchant ID	ics2test
Request ID	1889453160000167904548
Merchant Reference Number	cybs_test
Date	Sep 04 2007 03:35:16 PM
Applications	Payer Authentication Enrollment
Reply	Payer needs to be authenticated
Reply Code	0
Reply Message	The cardholder is enrolled in Payer Authentication. Please authenticate before proceeding with authorization.
Client Version	Perl5.0/solaris2.6/sol25/C/3.4.8
Client User	

Related Events

Similar Searches [By Name](#)
[By Email Address](#)
[By Payer Authentication History](#)

Extended Views [View Payer Authentication Details](#)

Details

Customer Information	
Billing Information	
Name	VIMAL PATEL
Company	Cybersource Corporation
Address	1295 Charleston Road Mountain View CA , 94043 US
Phone Number	
Email Address	vimal.67@gmail.com
IP Address	10.2.7.18

Payment Information			
Payer Authentication	ECI	AAV/CAVV	XID a/Q7zFs2EdyKlZjve2/X4gEAAAc=

Events Related to Payer Authentication

When the XID value is available, you also have the option to search for other parts of the transaction with the By Payer Authentication History under Similar Searches link.

For example, in the previous figure, you can use the link to find the details page that shows the associated card validation and authorization results. The following figure shows the results page:

Figure 6 Transaction Search Details: Example 1

Transaction Search Results

[I need help with this page.](#)

Search Parameters

Export Results

Start Custom range
End Mar 11 2007 12:00 AM
Sep 11 2007 11:59 PM
Payer Authentication ID (XID) a/Q7zFs2EdyKlZjve2/X4gEAAAc=
Matching Transactions 2

Merchant ID Date and Time	Request ID Merchant Reference Number	Name Email Address	Amount Account Suffix	Applications
ics2test Sep 04 2007 03:36:04 PM	1889453640000167904548 cybs_test	VIMAL PATEL vimal.67@gmail.com	1.00 USD 1007	Payer Authentication Validation
ics2test Sep 04 2007 03:35:16 PM	1889453160000167904548 cybs_test	VIMAL PATEL vimal.67@gmail.com	1.00 USD 1007	Payer Authentication Enrollment

- The most recent event is the successful authentication. If you click the request ID, the authentication details page opens. Because this event also returned an XID value, the By Payer Authentication History link is present. If you click it, you return to the results page.
- The older event is the enrollment check.

If the card authorization service had been requested at the same time as payer authentication, authorization would not have run with the enrollment check but with the validate authentication request. The following figure shows these events:

Figure 7 Transaction Search Details: Example 2

Transaction Search Results

[I need help with this page.](#)

Search Parameters

Export Results

Date Range Custom range
 Start Jun 15 2006 12:00 AM
 End Dec 15 2006 11:59 PM
 Payer Auth ID (XID) HhxPrE5EEduE8fSIXW0bLAQEBgg=
 Matching Transactions 2

Merchant ID Date and Time	Request ID Merchant Reference Number	Name Email Address	Amount Account Suffix	Applications
revent Sep 27 2006 11:18:34 AM	1593741442830167904065 1159373664380		3.00 USD 4468	Credit Card Authorization Payer Authentication Validation
revent Sep 27 2006 11:18:23 AM	1593741342490167904065 1159373664380		3.00 USD 4468	Credit Card Authorization Payer Authentication Enrollment

- The most recent event is the combined successful customer authentication and card authorization. If you click the request ID, the details page opens.
- The older event is the enrollment check in red because the card is enrolled.

Payer Authentication Details

You also can search for the payer authentication data with the View Payer Authentication Details link located under Extended Views. The following figure and the XML code that follows shows details for the above transaction. The XML code is returned if you click Export to XML File. CyberSource stores payer authentication information for 12 months after the transaction. For more information about this XML report, see "[Payer Authentication Detail Report](#)," page 169.

Figure 8 Payer Authentication Data in Transaction Search Details Window

Payer Authentication Search Details [I need help with this page.](#)

Request Information

CyberSource Merchant ID
 Request ID [1889453160000167904548](#)
 Unique Transaction Identifier (XID) a/Q7zFs2EdyKlZjve2/X4gEAAAc=
 Transaction Date Sep 04 2007 03:35:16 PM
 Transaction Type Payer Authentication Enrollment

[Export to XML File](#)

Proof XML

Date 20070904 15:30:21
 Directory Server URL https:
 Primary Account Number (PAN) XXXXXXXXXXXX1007
 Acquirer BIN 1234567
 Merchant ID special_id
 Data Server Password XXXXXXXX
 Card Enrollment Result Y

Verify Enrollment Request

Primary Account Number (PAN) XXXXXXXXXXXX1007
 Acquirer BIN 1234567
 Merchant ID special_id

Verify Enrollment Response

Card Enrollment Result Y
 Account Identifier G7XnvRUvB6jKH5/KxVBwYnx6cyw=
 ACS URL

Payer Authentication Request

Acquirer BIN 1234567
 Merchant ID special_id
 Merchant Name CyberSource
 Merchant Country US
 Merchant URL http://www.
 Unique Transaction Identifier (XID) a/Q7zFs2EdyKlZjve2/X4gEAAAc=
 Purchase Date Sep 04 2007 03:30:21 PM
 Purchase Amount 1.00 USD
 Account Identifier G7XnvRUvB6jKH5/KxVBwYnx6cyw=
 Card Expiration Date 0905

Example 14 Transaction Detail XML Export

```

<?xml version="1.0" encoding="utf-8"?>
<!DOCTYPE Result SYSTEM "https://ebc.cybersource.com/ebc/reports/dtd/
payerauthdetails.dtd">
<Result>
  <PayerAuthDetail>
    <RequestID>1889453160000167904548</RequestID>
    <MerchantID>example</MerchantID>
    <TransactionDate>Sep 04 2007 03:35:16 PM</TransactionDate>
    <TransactionType>ics_pa_enroll</TransactionType>
    <ProofXML>
      <Date>20070904 15:30:21</Date>
      <DSURL>https:123.456.789.01:234</DSURL>
      <PAN>XXXXXXXXXXXX1007</PAN>
      <AcqBIN>1234567</AcqBIN>
      <MerID>00032805455400000</MerID>
      <Password>XXXXXXXX</Password>
      <Enrolled>Y</Enrolled>
    </ProofXML>
    <VEReq>
      <PAN>XXXXXXXXXXXX1007</PAN>
      <AcqBIN>1234567</AcqBIN>
      <MerID>special_id</MerID>
    </VEReq>
    <VERes>
      <Enrolled>Y</Enrolled>
      <AcctID>G7XnvRUvB6jKH5/KxVBwYnx6cyw=</AcctID>
      <URL>https://www.example_url.com</URL>
    </VERes>
    <PAREq>
      <AcqBIN>1234567</AcqBIN>
      <MerID>00032805455400000</MerID>
      <Name>Example_Merchant</Name>
      <Country>US</Country>
      <URL>http://www.example_merchant.com</URL>
      <XID>a/Q7zFs2EdyKlZjve2/X4gEAAAc=</XID>
      <Date>Sep 04 2007 03:30:21 PM</Date>
      <PurchaseAmount>1.00 USD</PurchaseAmount>
      <AcctID>G7XnvRUvB6jKH5/KxVBwYnx6cyw=</AcctID>
      <Expiry>0905</Expiry>
    </PAREq>
  </PayerAuthDetail>
</Result>

```

Authentication Validation

The following figure shows a details page in which the validation and the card authorization services were processed successfully. The red boxes show where payer authentication data is located in the Transaction Search Details window:

- Request Information section: The validation service succeeded. You receive the reason code 100, and the corresponding reply message. The necessary payer authentication information was passed to the card authorization service, which was processed successfully. Both services are shown in green.
- Payment Information section: You received a value for all three parameters because the validation was successful. You may not receive an ECI value when a system error prevents the card issuer from performing the validation or when the cardholder does not complete the process.

Figure 9 Transaction Search Details: Authentication Validation

Transaction Search Details [I need help with this page.](#)

Request Information		Status	Amount	Action	Date
Merchant ID	ocvp1	Credit Card Authorization	66.00 USD		Mar 31 2006 12:37:06 PM
Request ID	1438292990130167904064				
Merchant Reference Number	1143829299008				
Date	Mar 31 2006 12:37:06 PM				
Applications	Credit Card Authorization Payer Authentication Validation			Available Actions Settlement Create Subscription	
Reason Code	100			Similar Searches By Name By Email Address By Payer Authentication History	
Reply Message	Request was processed successfully.				
Client Library	3.7.11				
Client Application	HOP				
Client Application Version	2				
Client User	HOP				

Customer Information	
Billing Information	
Name	
Company	
Address	8310 Capital of Texas Austin TX , 78731 US
Phone Number	
Email Address	null@cybersource.com
IP Address	

Payment Information				
Processor	Payment Method	Account Suffix	Expiration Date	
smartfdc	MasterCard	4617	02/2009	
Credit Card Authorization	Authorization Code	Amount	Action	Trans Ref No Reason Code
	123456	66.00 USD		9038226693 100
	CVN	AVS		
	Y - Match: address and 5-digit postal code match			
	Reply Message			
	Request was processed successfully.			
Payer Authentication	ECI	AAV/CAVV	XID	
	2	jLw8xEMqcxPMABEAAADH1UGO/7k = ZWWFOMDkEdqNhdAcOxvIjwQGAQc=		

Card Not Enrolled

When the card is not enrolled, the enrollment check service result is shown in green, and the card authorization request (if requested at the same time) proceeds normally.

Payer Authentication Details

You can also search for the payer authentication data by using the View Payer Authentication Details link located under Extended Views. The following figure and the XML code that follows shows those details for the above transaction. The XML code is returned if you click Export to XML File. Payer authentication information is stored for 12 months after the transaction. For more information on this XML report, see "Payer Authentication Detail Report," page 169.

Figure 10 Payer Authentication Details: Card Not Enrolled

Payer Authentication Search Details

[I need help with this page.](#)

Request Information

CyberSource Merchant ID **example**
 Request ID **[1897243130000167904548](#)**
 Unique Transaction Identifier (XID)
 Transaction Date **Sep 13 2007 03:58:36 PM**
 Transaction Type **Payer Authentication Enrollment**

[Export to XML File](#)

Proof XML

Date **20070913 15:53:37**
 Directory Server URL **https:**
 Primary Account Number (PAN) **XXXXXXXXXXXX0008**
 Acquirer BIN **123456**
 Merchant ID **special_id**
 Data Server Password
 Card Enrollment Result **N**

Verify Enrollment Request

Primary Account Number (PAN) **XXXXXXXXXXXX0008**
 Acquirer BIN **123456**
 Merchant ID **special_id**

Verify Enrollment Response

Card Enrollment Result **N**
 Account Identifier
 ACS URL

Example 15 Transaction Detail XML Export

```

<?xml version="1.0" encoding="utf-8"?>
<!DOCTYPE Result SYSTEM "https://ebc.cybersource.com/ebc/reports/dtd/
payerauthdetails.dtd">
<Result>
  <PayerAuthDetail>
    <RequestID>1897243130000167904548</RequestID>
    <MerchantID>example</MerchantID>
    <TransactionDate>Sep 13 2007 03:58:36 PM</TransactionDate>
    <TransactionType>ics_pa_enroll</TransactionType>
    <ProofXML>
      <Date>20070913 15:53:37</Date>
      <DSURL>https:123.456.789.01:234</DSURL>
      <PAN>XXXXXXXXXXXX0008</PAN>
      <AcqBIN>123456</AcqBIN>
      <MerID>special_id</MerID>
      <Password />
      <Enrolled>N</Enrolled>
    </ProofXML>
    <VEReq>
      <PAN>XXXXXXXXXXXX0008</PAN>
      <AcqBIN>123456</AcqBIN>
      <MerID>special_id</MerID>
    </VEReq>
    <VERes>
      <Enrolled>N</Enrolled>
      <AcctID />
      <URL />
    </VERes>
  </PayerAuthDetail>
</Result>

```

Transaction Details

The red boxes show where payer authentication data is located in the Transaction Search Details window:

- Request Information section: the service is shown in green. You can obtain additional information about related orders by clicking the link on the right.
- Payment Information section: the detailed information for the authorization service:
 - The ECI value is 1: authentication is not required because the customer's Mastercard card is not enrolled.
 - The AAV/CAVV area is empty because you receive a value only if the customer is authenticated.
 - The XID area is empty because the card is not enrolled.

Figure 11 Transaction Search Details: Card Not Enrolled

Transaction Search Details

[I need help with this page.](#)

Request Information	
Merchant ID	ics2test
Request ID	1897243130000167904548
Merchant Reference Number	cybs_test
Date	Sep 13 2007 03:58:36 PM
Applications	Payer Authentication Enrollment
Reply	Success
Reply Code	1
Reply Message	Request was processed successfully.
Client Version	Perl5.0/solaris2.6/sol25/C/3.4.8
Client User	

Similar Searches [By Name](#) [By Email Address](#)

Extended Views [View Payer Authentication Details](#)

Customer Information	
Billing Information	
Name	JOHN DOE
Company	Cybersource
Address	1295 Charleston Road Mountain View CA , 94043 US
Phone Number	
Email Address	null@cybersource.com
IP Address	10.2.7.48

Payment Information			
Payer Authentication	ECI	AAV/CAVV	XID
	1		

Offer-Line Details							
Item	Quantity	SKU	Name	Type	Price	Tax	Currency
0	1	27100911	Test Product	default	1.00	0.00	

Payer Authentication Search

Search for transactions that used the payer authentication and card authorization services. When searching for transactions, consider the following:

- Search options:
 - Use the XID as search parameter to find both parts of a transaction processed with an enrolled card. When using the XID as search option, make sure to keep the = sign at the end of the string.
 - The list of applications is simplified to facilitate searching for the relevant service requests.
 - Payer authentication information is available for 12 months after the transaction date.
- Search results: the results options include the XID and the customer's account number (PAN). Use the XID to find all parts of the transaction.
- Payer authentication details: all transaction details are discussed under ["Searching for Payer Authentication Details," page 152](#).

Storing Payer Authentication Data

Payment card companies allow a certain number of days between the payer authentication and the authorization requests. If you settle transactions older than the pre-determined number of days, payment card companies may require that you send them the AAV, CAVV, or the XID if a chargeback occurs. The requirements depend on the card type and the region. For more information, see your agreement with your payment card company. After your transactions are settled, you can also use this data to update the statistics of your business.

You may be required to show the values that you receive in the PAREs, the proof XML, and the PAREq fields as proof of enrollment checking for any payer authentication transaction that you present again because of a chargeback. Your account provider may require that you provide all data in human-readable format, so make sure that you can decode the PAREq and PAREs. For enrollment reply examples, see [Appendix C, "Request and Reply Examples," on page 143](#). The replies are similar for all card types.

Payment card companies have implemented the [3D Secure](#) protocol in different ways throughout the world. CyberSource recommends that you contact your merchant account provider to find out what is required. For more information on decrypting and providing the PAREs contact your account manager.

Payer Authentication Reports

This chapter describes the reports that you can download from the Business Center. All reports on the production servers are retained for 16 months but the transaction history is only kept in the database for six months. All reports on the test servers are deleted after two weeks. Only transactions that were processed are reported. Those that resulted in system error or time-out are not. For more information about API replies and their meanings, see [Appendix A, "API Fields," on page 111](#).

**Note**

To obtain the reports, you must file a support ticket in the Support Center.

Payer Authentication Summary Report

This daily, weekly, and monthly summary report indicates the performance of the enrollment and validation services as a number of transactions and a total amount for groups of transactions. The report provides this information for each currency and type of card that you support. You can use this information to estimate how your transactions are screened by payer authentication: successful, attempted, and incomplete authentication. The cards reported are Visa, Mastercard, Maestro, American Express, JCB, Diners Club, and Discover. This daily report is generally available by 7:00 am EST. Data in this report remains available for six months.

Downloading the Report

To view a report, follow these steps:

- Step 1** In the navigation pane, choose **Reports > Report Search**.

Figure 12 Report Search Window

Report Search [I need help with this page.](#)

To view or download reports, select the report and the time period. To access reports to which you are no longer subscribed, select "All".

Report Search Criteria

Report: Payer Authentication Report

Frequency: Daily

Daily Report Search

Date: April 9 2006

Submit

Reports for Apr 09, 2006

No Reports Available

Downloadable Reports for Apr 09, 2006

No Reports Available

- Step 2** Choose a report and frequency.
- The type of report that you choose (daily, weekly, or monthly) determines the date or time range that appears below.
- Step 3** Choose the appropriate date or time range and submit your search request.
- If reports are available, a list appears.

Figure 13 Report Search Results

Report Search Results

Search Parameters: Report = All , Frequency = Daily , Date = Mar 30, 2006

Reports

Report Name
Payer Authentication Report

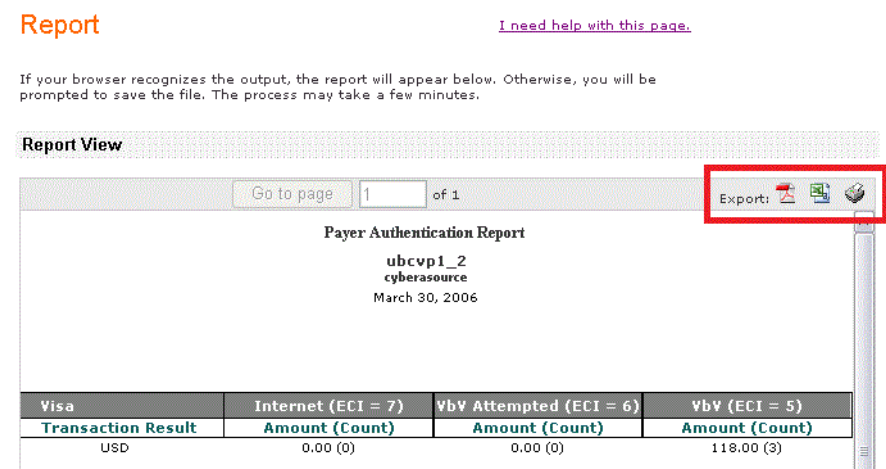
Downloadable Reports

No Reports Available

- If no reports are available, the Business Center displays the message *No Reports Available*.

Step 4 Click **Payer Authentication Report**.
The report opens.

Figure 14 Payer Authentication Report



This report shows three successfully authenticated Visa transactions.

View the report online by navigating between pages, but to store the content, export the report either in PDF format or as a spreadsheet as shown in the figure.

Matching the Report to the Transaction Search Results

The figure below shows the search results that contain the transactions that appear in the above report. For more information on search results, see "Searching for Payer Authentication Details," page 152.

Figure 15 Payer Authentication Report Details

Mar 30 2006					
ubcvp1_2	1437540121000167904064	PATRICK MCMAHON	1.00 USD	Credit Card Authorization	
Mar 30 2006 03:42:16 PM	1143754012100	null@cybersource.com	0771	Payer Authentication Validation	
ubcvp1_2	1437543646410167904065	P MAN	101.00 USD	Credit Card Authorization	
Mar 30 2006 03:41:17 PM	1143754364636	null@cybersource.com	0771	Payer Authentication Validation	
ubcvp1_2	1437538846880167904064	PATRICK MCMAHON	16.00 USD	Credit Card Authorization	
Mar 30 2006 03:40:09 PM	1143753884687	null@cybersource.com	0771	Payer Authentication Validation	

Interpreting the Report

A report heading shows the title, the ID of the user who downloaded the report, the merchant ID, and the date or date range of the report. The report is organized by card type. In each section, currencies are reported alphabetically. For each currency, you receive a summary of your payer authentication validation results displayed as total amount and number of transactions.

Table 18 Payer Authentication Report Interpretation

Card Type	Interpretation	Protected?	Reported	
			Commerce Indicator	ECI
Visa, American Express, and JCB	No authentication	No	Internet	7
	Recorded attempt to authenticate	Yes	VbV, Aesk, or JS Attempted	6
	Successful authentication	Yes	VbV, JS, or Aesk	5
Mastercard and Maestro	No authentication	No	Internet ²	7 ¹
	Recorded attempt to authenticate	Yes	SPA	1
	Successful authentication	Yes	SPA	2
Diners Club and Discover	No authentication	No	Internet	7
	Recorded attempt to authenticate	Yes	PB or DIPB Attempted	6
	Successful authentication	Yes	PB or DIPB	5

1 Although the report heading is 7, you receive a collection indicator value of 1, or the reply field is empty.

2 Although the report heading is Internet, you receive `spa_failure` in the commerce indicator reply field.

Transactions are divided into two groups: those for which you are protected and those for which you are not:

- For Visa, American Express, JCB, Diners Club, and Discover: liability shift for VbV and VbV attempted
- For Mastercard and Maestro: liability shift only for SPA
- For all other results: no liability shift

Comparing Payer Authentication and Payment Reports

There may be differences between the Payer Authentication report and the payment reports because an authenticated transaction may not be authorized.

The values (amounts and counts) in the Payer Authentication report may not match exactly your other sources of reconciliation because this report shows the transactions that were validated by payer authentication, not necessarily the transactions that were authorized. There are more likely to be reconciliation discrepancies if you process your authorizations outside of CyberSource.

Example 16 Payer Authentication Reports Compared to Payment Reports

For 10,000 orders, you may receive the following results:

- 9900 successful enrollment checks (Payer Authentication report)
- 9800 successful authentication checks (Payer Authentication report)
- 9500 successful authorization checks (Payment report)

The amounts and numbers can be higher in the Payer Authentication report than in the payment reports. In this example, it shows the results of the first two numbers in the Payer Authentication report and the last one in the payment reports.

To reconcile your reports more easily when using payer authentication, we recommend that you attempt to authenticate the same amount that you want to authorize.

Payer Authentication Detail Report

This section describes the XML report that you download when you click the Export to XML feature in the Payer Authentication details page of the Business Center. The data in this report remains available for 12 months. You can obtain the DTD in the **Reports > DTDs** section of the Business Center.

File Name

The file that you download is named according to this format:

<MerchantID>-<RequestID>-<TransactionType>.xml

Example 17

example_merchant-1884340770000167904548-ics_pa_enroll.xml

Date and Time

In the report, the date and time are shown in this format:

YYYY-MM-DDTHH:MM:SS[+ | -]HH:MM:

- YYYY-MM-DD is the year, month, and day.
- THH:MM:SS is the time (hours, minutes, and seconds). The T separates the date and the time.
- [+ | -]HH:MM is the time zone's offset from Greenwich Mean Time (GMT), with HH representing hours and MM representing minutes. The number is prefixed by either a plus (+) or minus (-) to indicate whether the offset adds to or subtracts from GMT. For example, the offset for Pacific Daylight Time (PDT) is -07:00.

Example 18

2016-07-31T16:31:18-07:00 equals July 31, 2016, at 16:31:18 (4:31:18 p.m. PDT)

Report

<Result>

The <Result> element is the root element of the report.

```
<Result>
  (PayerAuthDetail+)
</Result>
```

Table 19 Child Elements of <Report>

Element Name	Description
<PayerAuthDetail>	Contains the transaction in the report. For a list of child elements, see <PayerAuthDetail> .

Example <Report> Element

```
<?xml version="1.0" encoding="utf-8"?>
<!DOCTYPE Report SYSTEM "https://ebctest.cybersource.com/ebctest/reports/dtd/
payerauthdetails.dtd">
<Result>
  <PayerAuthDetail>
    ...
  </PayerAuthDetail>
</Result>
```

<PayerAuthDetail>

The <PayerAuthDetail> element contains information about a single transaction.

```
<PayerAuthDetail>
  (RequestID)
  (MerchantID)
  (TransactionDate)
  (TransactionType)
  (ProofXML)?
  (VEReq)?
  (VERes)?
  (PAREq)?
  (PAREs)?
  (AuthInfo)?
</PayerAuthDetail>
```

Table 20 Child Elements of <PayerAuthDetail>

Element Name	Description	Type & Length
<RequestID>	Unique identifier generated by CyberSource for the transaction. This field corresponds to the requestID API field.	Numeric (26)
<MerchantID>	CyberSource merchant ID used for the transaction.	String (30)
<TransactionDate>	Date on which the transaction was processed.	DateTime (25)
<TransactionType>	CyberSource service requested in SCMP format. This field can contain one of the following values: <ul style="list-style-type: none"> ■ ics_auth: Card authorization service ■ ics_pa_enroll: Payer Authentication Enrollment Check ■ ics_pa_validate: Payer Authentication Validation 	String (20)
<ProofXML>	Data that includes the date and time of the enrollment check and the VEReq and VERes elements. This field corresponds to the payerAuthEnrollReply_proofXML API field.	String (1024)
<VEReq>	Verify Enrollment Request (VEReq) sent by the merchant's server to the directory server and by the directory server to the ACS to determine whether authentication is available for the customer's card number. For a list of child elements, see " <VEReq> ," page 173.	
<VERes>	Verify Enrollment Response (VERes) sent by the directory server. For a list of child elements, see " <VERes> ," page 174.	
<PAREq>	Payer Authentication Request message that you send to the ACS through the payment card company. Corresponds to the payerAuthEnrollReply_paReq API field. For a list of child elements, see " <PAREq> ," page 175.	
<PAREs>	Payer Authentication Response message sent by the ACS. For a list of child elements, see " <PAREs> ," page 176.	
<AuthInfo>	Address and card verification data. For a list of child elements, see " <AuthInfo> ," page 178.	

Example <PayerAuthDetail> Element

```

<PayerAuthDetail>
  <RequestID>0004223530000167905139</RequestID>
  <MerchantID>example_merchant</MerchantID>
  <TransactionDate>2007-07-25T18:23:22-07:00</TransactionDate>
  <TransactionType>ics_pa_enroll</TransactionType>
  <ProofXML>
    ...
  </ProofXML>
  <VEReq>
    ...
  </VEReq>
  <VERes>
    ...
  </VERes>
  <PAREq>
    ...
  </PAREq>
  <PAREs>
    ...
  </PAREs>
</PayerAuthDetail>

```

<ProofXML>

The `<ProofXML>` element contains data that includes the date and time of the enrollment check and the `VEReq` and `VERes` elements. This element corresponds to the **payerAuthEnrollReply_proofXML** API field.

```

<ProofXML>
  (Date)
  (DSURL)
  (PAN)
  (AcqBIN)
  (MerID)
  (Password)
  (Enrolled)
</ProofXML>

```

Table 21 Child Elements of <ProofXML>

Element Name	Description	Type & Length
<Date>	Date when the proof XML is generated. Note Although the date and time should appear sequentially during all stages of the processing of an order, they may not because of differing time zones and synchronization between servers.	DateTime (25)
<DSURL>	URL for the directory server where the proof XML originated.	String (50)

Table 21 Child Elements of <ProofXML> (Continued)

Element Name	Description	Type & Length
<PAN>	Customer's masked account number. This element corresponds to the payerAuthEnrollReply_proxyPAN API field.	String (19)
<AcqBIN>	First six digits of the acquiring bank's identification number.	Numeric (6)
<MerID>	Identifier provided by your acquirer; used to log into the ACS URL.	String (24)
<Password>	Merchant's masked authentication password to the ACS; provided by your acquirer. Applies only to cards issued outside the U.S.	String (8)
<Enrolled>	Result of the enrollment check. This field can contain one of these values: <ul style="list-style-type: none"> ■ Y: Authentication available. ■ N: Cardholder not participating. ■ U: Unable to authenticate regardless of the reason. 	String (1)

Example <ProofXML> Element

```

<ProofXML>
  <Date>20070725 11:18:51</Date>
  <DSURL>https:123.456.789.01:234/DSMsgServlet</DSURL>
  <PAN>XXXXXXXXXXXX0771</PAN>
  <AcqBIN>123456</AcqBIN>
  <MerID>4444444</MerID>
  <Password />
  <Enrolled>Y</Enrolled>
</ProofXML>

```

<VEReq>

The <VEReq> element contains the enrollment check request data.

```

<VEReq>
  (PAN)
  (AcqBIN)
  (MerID)
</VEReq>

```

Table 22 Child Elements of <VEReq>

Element Name	Description	Type & Length
<PAN>	Customer's masked account number. This element corresponds to the payerAuthEnrollReply_proxyPAN API field.	String (19)
<AcqBIN>	First six digits of the acquiring bank's identification number.	Numeric (6)
<MerID>	Identifier provided by your acquirer; used to log in to the ACS URL.	String (24)

Example <VEReq> Element

```

<VEReq>
  <PAN>XXXXXXXXXXXX0771</PAN>
  <AcqBIN>123456</AcqBIN>
  <MerID>example</MerID>
</VEReq>

```

<VERes>

The <VERes> element contains the enrollment check reply data.

```

<VERes>
  (Enrolled)
  (AcctID)
  (URL)
</VERes>

```

Table 23 Child Elements of <VERes>

Element Name	Description	Type & Length
<Enrolled>	Result of the enrollment check. This field can contain one of these values: <ul style="list-style-type: none"> ■ Y: Authentication available. ■ N: Cardholder not participating. ■ U: Unable to authenticate regardless of the reason. 	String (1)
<AcctID>	Masked string used by the ACS.	String (28)
<URL>	URL of Access Control Server where to send the PAREq. This element corresponds to the payerAuthEnrollReply_acsURL API field.	String (1000)

Example <VERes> Element

```

<VERes>
  <Enrolled>Y</Enrolled>
  <AcctID>NDAXMjAwMTAxMTAwMDc3MQ==</AcctID>
  <URL>https://www.example_url.com</URL>
</VERes>

```

<PAREq>

The <PAREq> element contains the payer authentication request message. This element corresponds to the **payerAuthEnrollReply_paReq** API field.

```
<PAREq>
  (AcqBIN)
  (MerID)
  (Name)
  (Country)
  (URL)
  (XID)
  (Date)
  (PurchaseAmount)
  (AcctID)
  (Expiry)
</PAREq>
```

Table 24 Child Elements of <PAREq>

Element Name	Description	Type & Length
<AcqBIN>	First six digits of the acquiring bank's identification number.	Numeric (6)
<MerID>	Identifier provided by your acquirer; used to log in to the ACS URL.	String (24)
<Name>	Merchant's company name.	String (25)
<Country>	Two-character code for the merchant's country of operation.	String (2)
<URL>	Merchant's business web site.	String
<XID>	Unique transaction identifier generated by CyberSource for each Payment Authentication Request (PAREq) message. The PAREs sent back by the issuing bank contains the XID of the PAREq. To ensure that both XIDs are the same, compare it to the XID in the reply. To find all requests related to a transaction, you can also search transactions for a specific XID.	String (28)
<Date>	Date and time of request. Note Although the date and time should appear sequentially during all stages of the processing of an order, they may not because of differing time zones and synchronization between servers.	DateTime (25)
<Purchase Amount>	Authorization amount and currency for the transaction. This element corresponds to the totals of the offer lines or from the following fields: ■ ccAuthReply_amount (see <i>Credit Card Services Using the Simple Order API</i> [PDF HTML]) or purchaseTotals_grandTotalAmount from external data.	Amount (15)
<AcctID>	Masked string used by the ACS.	String (28)
<Expiry>	Expiration month and year of the customer's card.	Number (4)

Example <PAREq> Element

```

<PAREq>
  <AcqBIN>123456</AcqBIN>
  <MerID>444444</MerID>
  <Name>example</Name>
  <Country>US</Country>
  <URL>http://www.example.com</URL>
  <XID>fr2VCDrbEdyC37MOPfIzMwAHBwE=</XID>
  <Date>2007-07-25T18:18:51-07:00</Date>
  <PurchaseAmount>1.00 USD</PurchaseAmount>
  <AcctID>NDAXMjAwMTAxMTAwMDc3MQ==</AcctID>
  <Expiry>0811</Expiry>
</PAREq>

```

<PAREs>

The <PAREs> element contains the payer authentication reply message.

```

<PAREs>
  (AcqBIN)
  (MerID)
  (XID)
  (Date)
  (PurchaseAmount)
  (PAN)
  (AuthDate)
  (Status)
  (CAVV)
  (ECI)
</PAREs>

```

Table 25 Child Elements of <PAREs>

Element Name	Description	Type & Length
<AcqBIN>	First six digits of the acquiring bank's identification number.	Numeric (6)
<MerID>	Identifier provided by your acquirer; used to log in to the ACS URL.	String (24)
<XID>	XID value returned in the customer authentication reply. This element corresponds to the payerAuthEnrollReply_xid and payerAuthValidateReply_xid API fields.	String (28)
<Date>	Date and time of request. Note Although the date and time should appear sequentially during all stages of the processing of an order, they may not because of differing time zones and synchronization between servers.	DateTime (25)

Table 25 Child Elements of <PAREs> (Continued)

Element Name	Description	Type & Length
<PurchaseAmount>	Authorization amount and currency for the transaction. This element corresponds to the totals of the offer lines or from the following fields: <ul style="list-style-type: none"> ■ ccAuthReply_amount (see <i>Credit Card Services Using the Simple Order API</i> [PDF HTML]) or purchaseTotals_grandTotalAmount from external data 	Amount (15)
<PAN>	Customer's masked account number. This element corresponds to the payerAuthEnrollReply_proxyPAN API field.	String (19)
<AuthDate>	Date and time of request. Note Although the date and time should appear sequentially during all stages of the processing of an order, they may not because of differing time zones and synchronization between servers.	DateTime (25)
<Status>	Result of the authentication check. This field can contain one of these values: <ul style="list-style-type: none"> ■ Y: Customer was successfully authenticated. ■ N: Customer failed or cancelled authentication. Transaction denied. ■ U: Authenticate not completed regardless of the reason. ■ A: Proof of authentication attempt was generated. 	String (1)
<CAVV>	CAVV (Visa, American Express, JCB, Diners Club, and Discover cards = * below) or AAV (Mastercard, and Maestro cards = ** below) returned in the customer authentication reply. This element corresponds to the payerAuthValidateReply_cavv (*) and payerAuthValidateReply_ucafAuthenticationData (**) API fields.	String (50)
<ECI>	Electronic commerce indicator returned in the customer authentication reply. This element corresponds to the payerAuthValidateReply_eci (*) and payerAuthValidateReply_ucafCollectionIndicator (**) API fields.	Numeric (1)

Example <Card> Element

```

<PAREs>
  <AcqBIN>123456</AcqBIN>
  <MerID>4444444</MerID>
  <XID>Xe5DcjrqEdyC37MOPfIzMwAHBwE=</XID>
  <Date>2007-07-25T20:05:18-07:00</Date>
  <PurchaseAmount>1002.00 USD</PurchaseAmount>
  <PAN>0000000000000771</PAN>
  <AuthDate>2007-07-25T20:05:18-07:00</AuthDate>
  <Status>Y</Status>
  <CAVV>AAAAAAAAAAAAAAAAAAAAAAAAAAAA=</CAVV>
  <ECI>5</ECI>
</PAREs>

```

<AuthInfo>

The <AuthInfo> element contains address and card verification information.

```

<AuthInfo>
  (AVSResult)
  (CVVResult)
</AuthInfo>

```

Table 26 Child Elements of <AuthInfo>

Element Name	Description	Type & Length
<AVSResult>	Optional results of the address verification test. See ccAuthReply_avsCode or afsService_avsCode (if from external data) in <i>Credit Card Services Using the Simple Order API</i> (PDF HTML).	String (1)
<CVVResult>	Optional results of the card verification number test. See ccAuthReply_cvvCode or afsService_cvvCode (if from external data) in <i>Credit Card Services Using the Simple Order API</i> (PDF HTML).	String (1)

Example <AuthInfo> Element

```

<AuthInfo>
  <AVSResult>Y</AVSResult>
  <CVVResult/>
</AuthInfo>

```

Examples

These examples show a complete transaction: the failed enrollment check (enrolled card) and the subsequent successful authentication.

Failed Enrollment Check

```
<?xml version="1.0" encoding="utf-8"?>
<!DOCTYPE Result SYSTEM "https://ebc.cybersource.com/ebc/reports/dtd/
payerauthdetails.dtd">
<Result>
  <PayerAuthDetail>
    <RequestID>1895549430000167904548</RequestID>
    <MerchantID>sample_merchant_id</MerchantID>
    <TransactionDate>Sep 11 2007 04:55:44 PM</TransactionDate>
    <TransactionType>ics_pa_enroll</TransactionType>
    <ProofXML>
      <Date>20070911 16:51:00</Date>
      <DSURL>https:123.456.789.01:234/DSMsgServlet</DSURL>
      <PAN>XXXXXXXXXXXX0771</PAN>
      <AcqBIN>123456</AcqBIN>
      <MerID>4444444</MerID>
      <Password />
      <Enrolled>Y</Enrolled>
    </ProofXML>
    <VEReq>
      <PAN>XXXXXXXXXXXX0771</PAN>
      <AcqBIN>123456</AcqBIN>
      <MerID>example</MerID>
    </VEReq>
    <VERes>
      <Enrolled>Y</Enrolled>
      <AcctID>NDAXMjAwMTAxMTAwMDc3MQ==</AcctID>
      <URL>https://www.sample_url.com</URL>
    </VERes>
    <PAREq>
      <AcqBIN>123456</AcqBIN>
      <MerID>example</MerID>
      <Name>Merchant Name</Name>
      <Country>US</Country>
      <URL>http://www.merchant_url.com</URL>
      <XID>2YNAGDBEdydJ6WI6aFJWAAHBwE=</XID>
      <Date>Sep 11 2007 04:51:00 PM</Date>
      <PurchaseAmount>1.00 USD</PurchaseAmount>
      <AcctID>NDAXMjAwMTAxMTAwMDc3MQ==</AcctID>
      <Expiry>0811</Expiry>
    </PAREq>
  </PayerAuthDetail>
</Result>
```

Successful Authentication

```

<?xml version="1.0" encoding="utf-8"?>
<!DOCTYPE Result SYSTEM "https://ebc.cybersource.com/ebc/reports/dtd/
payerauthdetails.dtd">
<Result>
  <PayerAuthDetail>
    <RequestID>1895549900000167904548</RequestID>
    <MerchantID>ics2test</MerchantID>
    <TransactionDate>Sep 11 2007 04:56:31 PM</TransactionDate>
    <TransactionType>ics_pa_validate</TransactionType>
    <PRes>
      <AcqBIN>469216</AcqBIN>
      <MerID>6678516</MerID>
      <XID>2YNaNGDBEdydJ6WI6aFJWAAHBwE=</XID>
      <Date>Sep 11 2007 04:51:00 PM</Date>
      <PurchaseAmount>1.00 USD</PurchaseAmount>
      <PAN>0000000000000771</PAN>
      <AuthDate>Sep 11 2007 04:51:00 PM</AuthDate>
      <Status>Y</Status>
      <CAVV>AAAAAAAAAAAAAAAAAAAAAAAAAAAA=</CAVV>
      <ECI>5</ECI>
    </PRes>
  </PayerAuthDetail>
</Result>

```

Rules-Based Payer Authentication

Rules-based payer authentication enables you to specify rules that define how transactions are authenticated by a [3D Secure](#) card authentication program. For example, you can decide to turn off active authentication for transactions that would otherwise require customer interaction to avoid degrading the customer experience. However, you may decide to authenticate customers from card-issuing banks that use risk-based authentication because the authentication is performed without customer interaction.

To enable your account for rules-based payer authentication, contact your CyberSource sales representative.

**Note**

Depending on the card type and country, active mandates supersede rules-based payer authentication and revert to traditional 3D Secure.

Available Rules

By default, when payer authentication is enabled on your account, authentication is attempted on all transactions.

For transaction types that are not bypassed, you may be required to complete authentication.

You can enable one or more of the following authentication transaction types. Any transaction types that are set to bypass authentication return the reason code 100. If you receive reason code 475 from the enrollment check, you must complete validation even if no customer participation is needed.

Table 27 Rules-Based Payer Authentication Types

Authentication Type	Description	Test Case Example
Active Authentication	Customer is prompted to authenticate.	Test Case 1: Verified by Visa Card Enrolled: Successful Authentication
Attempts Processing	Customer is prompted to enroll in a 3D Secure card authentication program. This transaction type provides full 3D Secure benefits.	Test Case 3: Verified by Visa Card Enrolled: Attempts Processing
Non-Participating Bank	Card-issuing bank does not participate in a 3D Secure program. When enrollment is checked, this transaction type provides full 3D Secure benefits, including fraud chargeback liability shift for customer “I didn’t do it” transactions and interchange reduction of 5-59 basis points.	Test Case 9: Verified by Visa Card Not Enrolled
Passive Authentication	Customer is not prompted to authenticate. This transaction type provides full 3D Secure benefits when passive authentication is completed.	Test Case 12: Verified by Visa Enrollment RIBA_PASS
Risk-Based Bank	Card-issuing bank uses risk-based authentication. The likely outcome is that the customer is not challenged to enter credentials. Most authentications proceed without customer interaction. This transaction type provides full 3D Secure benefits.	Test Case 14: Verified by Visa Enrollment RIBA

API Replies



Note

By default, API replies that are specifically associated with rules-based payer authentication are turned off. Contact CyberSource Customer Support to enable these API replies when rules are triggered.

Bypassed Authentication Transactions

When card authentication is bypassed as a result of your rules-based payer authentication configuration, you can receive the following value for enrollment checks:

- **payerAuthEnrollReply_veresEnrolled** = B (indicates that authentication was bypassed)

Risk-Based Bank Transactions

When a transaction involves a card-issuing bank that supports risk-based authentication, you may receive the following authentication path replies, depending on whether the card-issuing bank deems the transaction risky:

■ `payerAuthEnrollReply_authenticationPath`

- `= RIBA`

The card-issuing bank supports risk-based authentication, but whether the cardholder is likely to be challenged cannot be determined.

- `= RIBA_PASS`

The card-issuing bank supports risk-based authentication, and it is likely that the cardholder will not be challenged to provide credentials; also known as *silent authentication*.

Glossary

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Numerics

3D Secure Security protocol for online credit card and debit card transactions used by Verified by Visa, Mastercard SecureCode, American Express SafeKey, JCB JSecure, Diners Club ProtectBuy, and Discover ProtectBuy.

A

AAV Account Authentication Value. Unique 32-character transaction token for a 3D Secure transaction. For Mastercard SecureCode, the AAV is named the [UCAF](#). For Verified by Visa, the AAV is named the [CAVV](#).

acquirer The financial institution that accepts payments for products or services on behalf of a merchant. Also referred to as “acquiring bank.” This bank accepts or acquires transactions that involve a credit card issued by a bank other than itself.

acquirer BIN A 6-digit number that uniquely identifies the acquiring bank. There is a different acquirer BIN for Mastercard (starts with 5) and Visa (starts with 4) for every participating acquirer.

acquiring processor Processor that provides credit card processing, settlement, and services to merchant banks.

ACS Access Control Server. The card-issuing bank’s host for the payer authentication data.

ACS URL The URL of the Access Control Server of the card-issuing bank that is returned in the reply to the request to check enrollment. This is where you must send the [PAREq](#) so that the customer can be authenticated.

ADS Activation During Shopping. The card issuer’s ability to ask the cardholder to enroll in the card authentication service when the merchant posts to the [ACS URL](#)

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

A (Continued)

American Express	A globally issued card type that starts with 3 and which is identified as card type 003 by CyberSource. These cards participate in a card authentication service (SafeKey) provided by 3D Secure .
API	Application Programming Interface. A specification that can be used by software components to communicate with each other.
authentication result	Raw data sent by the card issuer that indicates the status of authentication. It is not required to pass this data into the authorization.
authorization	A request sent to the card issuing bank that ensures a cardholder has the funds available on their credit card for a specific purchase. A positive authorization causes an authorization code to be generated and the funds to be held. Following a payer authentication request, the authorization must contain payer authentication-specific fields containing card enrollment details. If these fields are not passed correctly to the bank, it can invalidate the liability shift provided by card authentication. Systemic failure can result in payment card company fines.

B

base64	Standard encoding method for data transfer over the Internet.
BIN	Bank Identification Number. The 6-digit number at the beginning of the card that identifies the card issuer.

C

CAVV	Cardholder Authentication Verification Value. A base64-encoded string sent back with Verified by Visa -enrolled cards that specifically identifies the transaction with the issuing bank and Visa. Standard for collecting and sending AAV data for Verified by Visa transactions. See AAV .
CAVV algorithm	A one-digit reply passed back when the PAREs status is a Y or an A. If your processor is ATOS, this must be passed in the authorization, if available.
CVV	Card Verification Value. Security feature for credit cards and debit cards. This feature consists of two values or codes: one that is encoded in the magnetic strip and one that is printed on the card. Usually the CVV is a three-digit number on the back of the card. The CVV for American Express cards is a 4-digit number on the front of the card. CVVs are used as an extra level of validation by issuing banks.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

D

Diners Club	A globally issued card type that starts with a 3 or a 5. CyberSource identifies Diners Club cards with a card type of 005. These cards participate in a card authentication service (ProtectBuy) provided by 3D Secure .
Directory Servers	The Visa and Mastercard servers that are used to verify enrollment in a card authentication service.
Discover	Primarily, a U.S. card type that starts with a 6. CyberSource identifies Discover cards with a card type of 004. These cards participate in a card authentication service (ProtectBuy) provided by 3D Secure .

E

ECI (ECI Raw)	The numeric commerce indicator that indicates to the bank the degree of liability shift achieved during payer authentication processing.
E-Commerce Indicator	Alpha character value that indicates the transaction type, such as MOTO or INTERNET.
Enroll	CyberSource transaction type used for verifying whether a card is enrolled in the SecureCode or Verified by Visa service.

H

HTTP	Hypertext Transfer Protocol. An application protocol used for data transfer on the Internet.
HTTP POST request	POST is one of the request methods supported by the HTTP protocol. The POST request method is used when the client needs to send data to the server as part of the request, such as when uploading a file or submitting a completed form.
HTTPS	Hypertext Transfer Protocol combined with SSL/TLS (Secure Sockets Layer/Transport Layer Security) to provide secure encryption of data transferred over the Internet.

I

issuer	The bank that issued a credit card.
---------------	-------------------------------------

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

J

J/Secure The [3D Secure](#) program of [JCB](#).

JCB Japan Credit Bureau. A globally issued card type that starts with a 3. CyberSource identifies JCB cards with a card type of 007. These cards participate in a card authentication service ([J/Secure](#)) provided by [3D Secure](#).

M

Maestro A card brand owned by Mastercard that includes several debit card [BINs](#) within the U.K., where it was formerly known as Switch, and in Europe. Merchants who accept Maestro cards online are required to use SecureCode, Mastercard's card authentication service. CyberSource identifies Maestro cards with the 024 and 042 card types.

Note that many international Maestro cards are not set up for online acceptance and cannot be used even if they participate in a SecureCode card authentication program.

Mastercard A globally issued card that includes credit and debit cards. These cards start with a 5. CyberSource identifies these cards as card type 002 for both credit and debit cards. These cards participate in a card authentication service ([SecureCode](#)) provided by [3D Secure](#).

MD Merchant-defined Data that is posted as a hidden field to the [ACS URL](#). You can use this data to identify the transaction on its return. This data is used to match the response from the card-issuing bank to a customer's specific order. Although payment card companies recommend that you use the [XID](#), you can also use data such as an order number. This field is required, but including a value is optional. The value has no meaning for the bank, and is returned to the merchant as is.

Merchant ID Data that must be uploaded for the Mastercard and Visa card authentication process for each participating merchant. The Merchant ID is usually the bank account number or it contains the bank account number. The data is stored on the [Directory Servers](#) to identify the merchant during the [enrollment](#) check.

MPI Merchant Plug-In. The software used to connect to [Directory Servers](#) and to decrypt the [PAREs](#).

P

PAN Primary Account Number. Another term for a credit card number.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

P (Continued)

PAReq	Payer Authentication Request. Digitally signed base64-encoded payer authentication request message, containing a unique transaction ID, that a merchant sends to the card-issuing bank. Send this data without alteration or decoding. Note that the field name has a lowercase “a” (PaReq), whereas the message name has an uppercase “A” (PAReq).
PARes	Payer Authentication Response. Compressed, base64-encoded response from the card-issuing bank. Pass this data into CyberSource for validation.
PARes Status	Payer Authentication Response status. One-character length status passed back by Visa and Mastercard that is required data for Asia, Middle East, and Africa Gateway authorizations.
processor	Financial entity that processes payments. Also see acquiring processor .
ProofXML	CyberSource field that contains the VEReq and VERes for merchant storage. Merchants can use this data for future chargeback repudiation.
ProtectBuy	Trademarked name for the Diners Club and Discover card authentication services.

R

request ID	A 22- or 23-digit number that uniquely identifies each transaction sent to CyberSource. Merchants should store this number for future reference.
risk-based authentication	Risk-based authentication is provided by the card-issuing bank. The card-issuing bank gathers a cardholder’s transaction data or leverages what data they have to silently authenticate the cardholder based on the degree of risk that they perceive the transaction to have. They base their risk assessment on factors such as cardholder spending habits, order or product velocity, the device IP address, order amount, and so on.

S

SafeKey	Trademarked name for the American Express card authentication service.
SCMP API	CyberSource’s legacy name-value pair API that has been superseded by the Simple Order API .
SecureCode	Trademarked name for Mastercard’s card authentication service.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

S (Continued)

Simple Order API CyberSource's current API, which provides three ways to access CyberSource services: name-value pair (NVP), XML, and SOAP.

Solo A debit card type that was owned by Maestro. It was permanently discontinued March 31, 2011.

Switch See [Maestro](#).

T

TermURL Termination URL on a merchant's web site where the card-issuing bank posts the payer authentication response (PAREs) message.

U

UCAF Universal Cardholder Authentication Field. A base64-encoded string sent back with Mastercard [SecureCode](#)-enrolled cards that specifically identifies the transaction with the issuing bank and Mastercard. Standard for collecting and sending AAV data for Mastercard SecureCode transactions. See [AAV](#).

UCAF collection indicator Value of 1 or 2 that indicates whether a Mastercard cardholder has authenticated themselves or not.

V

validate CyberSource service for decoding and decrypting the [PAREs](#) to determine success. The *validate* service returns the needed values for authorization.

VEReq Verify Enrollment Request. Request sent to the [Directory Servers](#) to verify that a card is enrolled in a card authentication service.

VERes Verify Enrollment Response. Response from the [Directory Servers](#) to the [VEReq](#).

VERes enrolled Verify Enrollment Response enrolled. One-character length status passed back by Visa and Mastercard that is required data for Asia, Middle East, and Africa Gateway authorizations.

Verified by Visa (VbV) Trademarked name for Visa's card authentication service.

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z**V (Continued)**

Visa A globally issued card that includes credit and debit cards. These cards start with a 4. CyberSource identifies these cards as card type 001 for both credit and debit cards. These cards participate in a card authentication service ([Verified by Visa](#)) provided by [3D Secure](#).

X

XID String used by both Visa and Mastercard which identifies a specific transaction on the [Directory Servers](#). This string value should remain consistent throughout a transaction's history.

Index

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Numerics

16- and 19-digit Visa cards [32](#)

A

AAV

payerAuthValidateReply_
ucafAuthenticationData field [135](#), [140](#)

aesk_attempted [55](#)

AIBMS

commerce indicator, enrollment [133](#)
commerce indicator, validation [138](#)

American Express

card tests [55](#)
SafeKey [12](#)
validation results [55](#), [95](#)

application results in Business Center [152](#)

Asia, Middle East, and Africa Gateway

payerAuthEnrollReply_veresEnrolled
field [136](#)
payerAuthValidateReply_paresStatus
field [134](#), [140](#)

authentication form

URL [130](#)

authorizations, expired or multiple [20](#)

B

Barclays

commerce indicator, enrollment [133](#)
commerce indicator, validation [138](#)

Barclays, enrollment XID [136](#)

Barclays, validation XID [141](#)

base64 format, converting [23](#)

Brazil transactions (Verified by Visa)

payerAuthEnrollService_MCC field [122](#)
payerAuthEnrollService_mobilePhone
field [123](#)
payerAuthEnrollService_
overridePaymentMethod field [123](#)
payerAuthEnrollService_productCode
field [124](#)

C

card authorization with payer authentication [20](#),
[24](#)

CAVV [132](#), [137](#)

chargeback protection

subscription payments [12](#)

check enrollment service

description [13](#)
requesting [13](#)

credit card types accepted [117](#)

D

data storage [163](#)

detail report [169](#)

Diners Club

ProtectBuy [12](#)

Diners Club card tests [67](#)

Diners Club ProtectBuy

validation results [67](#)

dipb_attempted [73](#)

Discover card tests [73](#), [103](#)

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Discover ProtectBuy
validation results [73](#)

E

e-commerce indicator (ECI) [139](#)
enrollment data storage [163](#)
example code
payerAuthEnrollService [143](#), [144](#), [145](#), [146](#)

F

FDC Germany
commerce indicator, enrollment [133](#)
commerce indicator, validation [138](#)

I

issuing bank
authentication form, URL [130](#)
CAVV [132](#), [137](#)
enrollment check [13](#)

J

J/Secure [12](#)
J/Secure, validation results [61](#)
JCB
J/Secure [12](#)
tests [61](#)

M

Maestro
(U.K. domestic) tests [41](#)
tests [50](#)
Maestro cards
SecureCode [12](#)
Mastercard
SecureCode [12](#)
Mastercard SecureCode
validation results [41](#)
Mastercard tests [41](#), [87](#)

P

PAReq and PAREs storage [163](#)
PAREs [189](#)
password, enrolled card [13](#)
payer authentication details
enrolled card [155](#)
storage duration [155](#)
unenrolled card [159](#)
payer authentication report
comparing to payment reports [168](#)
frequency [164](#)
interpreting [166](#)
transactions reported [164](#)
payer authentication search options [162](#)
payerAuthEnrollService
example code [143](#), [144](#), [145](#), [146](#)
pb_attempted [67](#)
proofXML storage [163](#)

R

reason codes
validation [140](#)
reports
detail [169](#)
detail, XML format [170](#)
downloading summary report [165](#)
retention time limit [164](#)
summary [164](#)
risk-based authentication [182](#)

S

SafeKey [12](#)
SecureCode [12](#)
settling transactions, time limit [163](#)
storing payer authentication data [155](#)
Streamline
commerce indicator, enrollment [133](#)
commerce indicator, validation [138](#)
ECI raw [134](#), [139](#)

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

subscription payments, chargeback protection [12](#)
summary report [164](#)

T

testing [26](#)
tests
 American Express [55](#)
 Diners Club cards [67](#)
 Discover cards [73, 103](#)
 JCB J/Secure [61](#)
 Maestro cards [50](#)
 Mastercard cards [41, 87](#)
 Visa cards [32, 79](#)
transaction details
 enrollment check information [152](#)
transaction history, retention time limit [164](#)
transaction search
 authenticated card [158](#)
 enrolled card [152](#)
 unenrolled card [159](#)
 using [152](#)

U

unenrolled card, payer authentication details [159](#)

V

vbv_attempted [32](#)
Verified by Visa
 Brazilian transaction requirements, account type [123](#)
 Brazilian transaction requirements, merchant category code [122](#)
 Brazilian transaction requirements, mobile phone [123](#)
 Brazilian transaction requirements, product code [124](#)
 validation results [32, 55](#)
Visa
 Verified by Visa [12](#)
Visa card tests [32, 79](#)
Visa Vale Alimentacao (VSAVA) [123](#)
Visa Vale Refeicao (VSAVR) [123](#)
Visa, 16- and 19-digit cards [32](#)

X

XID
 API field [136](#)
 validate in reply [141](#)
XML report sample [179](#)