Use this guide to:

- Understand the options available with Dynamic 3D Secure.
- Specify criteria for Dynamic 3D Secure rules.
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<th>Page</th>
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</tbody>
</table>
1 Introduction

Dynamic 3D Secure gives you control over when 3D Secure takes place.

This guide provides an overview of Dynamic 3D Secure. In addition, it shows you how to:

- Configure rules that automate your control of 3D Secure.
- Apply an optional override element. You can use this XML element to turn 3D Secure on or off per order.
- View Dynamic 3D Secure information in the Merchant Interface.

1.1 What is 3D Secure?

3D Secure is an authentication service that verifies the identity of a cardholder. With 3D Secure, the cardholder uses a password or other means of authentication stored separately from their card details. During online payments where 3D Secure is used, cardholders are prompted to provide authentication for the payment.

You will receive liability shift for payments that are authenticated.

1.2 Who is this guide for?

This is a technical integration guide, aimed at:

- System integrators
- Other technical roles, including managers who are involved in designing and managing your integration

1.2.1 Skills and knowledge

To carry out the tasks described in this guide, you will need:

- XML programming skills
- A knowledge of HTTPS
- Some knowledge of how our payment services work

For more information about our products and services, including payment methods, go to our website at http://www.worldpay.com at the end of this guide.

1.3 Changes to the guide

<table>
<thead>
<tr>
<th>Revision</th>
<th>Release date</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>January 2016</td>
<td>New guide.</td>
</tr>
</tbody>
</table>

Table 1: Changes to the guide
1.4 More help?

For more information about our products and services, including payment methods:

- See our website at http://www.worldpay.com
- Talk to your dedicated Relationship Manager

For technical guides and developer resources (including our DTD) see:
http://www.worldpay.com/support/gg/

To contact Corporate Support:

- Email: corporatesupport@worldpay.com

1.5 Legal

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2 Dynamic 3D Secure overview

With Dynamic 3D Secure (3DS) you can control the 'Mode of Operation', allowing you to choose when your customers are authorised. There are two options: 3D Secure Turned On, or Turned Off.

3D Secure Turned On

- When using this 'Mode of Operation', the default setting of 3DS is on. This means that every payment will need to be authenticated.
- The rules you create will turn off 3DS, essentially bypassing it. When a rule is triggered, the shopper will not need to provide authentication.

This is explained further in Turn 3D Secure On on page 12.

You can either Turn On or Turn Off 3D Secure. You cannot have both 'Modes of Operation' turned on at the same time.

3D Secure Turned Off

- When using this 'Mode of Operation', the default setting of 3DS is off. This means that shoppers will not be required to provide authentication.
- Any rules you create will turn on 3D Secure. When a rule is triggered, a shopper must provide authentication.

This is explained further in Turn 3D Secure Off on page 14.

Payments in which the cardholder is not authenticated receive no liability shift.

By eliminating authentication on selected shopper journeys, Dynamic 3D Secure can help to streamline the payment process for your shoppers. By turning on 3D Secure, you can ensure that the liability shifts from yourself to the cardholder's issuer.

When using Dynamic 3D Secure, 3D Secure will be turned on by default.

2.1 Rules

With Dynamic 3D Secure, you are able to choose criteria which will either turn on or turn off authentication depending on your chosen 'Mode of Operation'.

- You can create rules based on a number of criteria. For each payment that is submitted, your rule base is evaluated to see whether a rule is triggered. Depending on the criteria that was set up, and depending on which 'Mode of Operation' you’re using, authentication will either be required or bypassed.

Examples of the criteria you can use are Issuer country and Order amount. For more information about the available criteria, see Criteria for Dynamic 3D Secure rules on page 9.
2.2 Override
Another feature of Dynamic 3D Secure is the override element, which allows you to manually override 3DS on a transaction-by-transaction basis.

- With the override option, you explicitly state in the XML order whether 3D Secure should be used or not. The XML element `<dynamic3DS>` is available for this purpose, and is explained in *Sample XML code with the override element on page 19*.
- When you submit an XML order with the override element, any defined rules are ignored. The value of the override element indicates whether the cardholder must provide authentication or not for that payment.
- You can also use the override element when no rules are specified.

2.3 Fail-safe
A fail-safe exists when using Dynamic 3D Secure, where if the Dynamic 3D Secure components fails, the system will default to attempting 3D Secure.

2.4 Supported card schemes
We support the following card schemes for 3D Secure:

<table>
<thead>
<tr>
<th>Card scheme</th>
<th>3D Secure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visa</td>
<td>Verified by Visa</td>
</tr>
<tr>
<td>MasterCard</td>
<td>MasterCard SecureCode</td>
</tr>
<tr>
<td>American Express</td>
<td>SafeKey</td>
</tr>
<tr>
<td>JCB</td>
<td>J/Secure</td>
</tr>
</tbody>
</table>

*Table 2: Supported card schemes*

To comply with a security mandate for Maestro, we recommend that you continue to use 3D Secure for Maestro payments.

Some territories may mandate 3D Secure be used in every transaction.

2.5 Enabling Dynamic 3D Secure
To enable 3D Secure on your account, contact Corporate Support or your Relationship Manager.

You may need to sign a waiver to use Dynamic 3D Secure. For more information, please contact your Relationship Manager.

To use this service, you must:
- Use our Worldwide Payment Gateway
Have the following services enabled for your account:
- 3D Secure
- Dynamic 3D Secure

Override element only: To use the override element, you must use one of the following integration methods:
- XML Direct
- XML Redirect

2.6 Testing

We recommend that you test rules in Sandbox, our secure-test system. You can also test the override XML element in Sandbox. Once you are satisfied with your testing, you can make the rules available in the live production environment. You can find out more about the Sandbox in the Sandbox Guide.

For information on specifying rules for the test or production environment, see Setting up or changing rules on page 11.
3 Rules for Dynamic 3D Secure

To set up rules you specify characteristics called criteria. These rules, when applied, decide whether or not a shopper must authenticate their payment, depending on your chosen 'Mode of Operation'.

3.1 Criteria for Dynamic 3D Secure rules

You can set up rules based on the following criteria:

- Issuer country
- Bank Identification Numbers (BINs)
- Order currency
- Order amount
- Payment method

3.1.1 Issuer country

The issuer country is the country in which the cardholder’s card was issued.

Conventions for specifying issuer country

- You can specify multiple issuer countries per rule.

3.1.2 Bank Identification Numbers (BINs)

On a credit or debit card, the Bank Identification Number (BIN) appears as the first six digits of the card number. It identifies the institution that issued the card.

Conventions for specifying BINs

- You can specify multiple BINs per rule.
- Each BIN must be six digits long.
- You must specify individual BINs. BIN ranges are not allowed.
- To provide BINs to us, use a comma-separated values (CSV) file type.

3.1.3 Order currency

In XML orders, the order currency is specified in the currencyCode attribute.

Conventions for specifying order currency

- You can only specify one currency per rule.
- To specify a currency, use three uppercase letters as specified in the ISO-4217 standard.
- Specifying an amount for the currency is optional.

For the full list of currencies we accept, see the XML Direct Integration Guide or the XML Redirect Integration Guide.
3.1.4 Order amount

In XML orders, the order amount is specified in the *amount value* attribute.

**Conventions for specifying order amount**
- If you specify an order amount in a rule, you **must** also specify an order currency.
- The order amount must contain minor units. For example, for the amount €35.00, specify 3500.
- The order amount cannot be a negative value.

To specify an order amount for a rule, use one of the following equations:
- The order amount is less (<) than a specific amount.
- The order amount is equal to or greater (≥) than a specific amount.

3.1.5 Payment method

You can specify most payment methods for which we support 3D Secure. For a list of supported payment methods, see *Supported card schemes on page 7*.

**Conventions for specifying payment method**
- You can specify multiple payment methods per rule.
- The Carte Bleue and Carte Bancaire payment methods are not available as criteria. To ensure 3D Secure is bypassed for these payment methods, set the following criteria instead:
  - **Payment method**: Visa
  - **Issuer country**: France

3.2 Rules processing

There are many criteria you can choose from to require shoppers to either authenticate their payments using 3D Secure, or bypass the tool entirely. An example is outlined below of how the rules or criteria can be used to bypass 3D Secure when the merchant has 3DS turned on.

3.2.1 Example of rules processing

A medium-sized company in the Netherlands sells consumer goods in the following countries:
- The Netherlands (NL)
- Belgium (BE)
- Luxembourg (LU)
- Germany (DE)
- France (FR)
- Denmark (DK)

**Sample order**

The company receives an XML order containing the following payment details:
- **Issuer country**: FI (Finland)
The company has set up four rules for Dynamic 3D Secure. They are shown in the order of increasing risk, as perceived by the company.

**Rule 1:**
- **Issuer country:** NL
- **Payment method:** PREFERRED_CARD-SSL
- **Order currency:** EUR
- **Order amount:** < €100

**Rule 2:**
- **Issuer country:** NL
- **Order currency:** EUR
- **Order amount:** < €100

**Rule 3:**
- **Issuer country:** BE, LU, DE, FR, DK
- **Order currency:** EUR
- **Amount:** < €50

**Rule 4:**
- **Order currency:** EUR
- **Amount:** < €15

**Outcome**

In this example, **Rule 4** applies. 3D Secure is bypassed. As the company’s perceived risk increases, the order amounts for which they are willing to bypass 3D Secure become lower.

The issuer country is not the Netherlands or one of the countries that the company normally trades with. In addition, the shopper is not using the company’s preferred payment card. For Rule 4, the company bypasses 3D Secure only when amounts are relatively small.

### 3.3 Setting up or changing rules

To set up or update rules, contact Corporate Support or your Relationship Manager.

When rules are set up or updated, there are a few things to consider:

- By default, any new rule is enabled in the Sandbox secure-test environment.
- To make a rule available in the live production environment, you must request that it be made live by contacting your Relationship Manager.

*Changes to rules take effect immediately.*
4 Turn 3D Secure On

When you choose to turn on 3D Secure, the default setting is "on". Every shopper that wishes to make a payment is required to provide authentication.

You can choose criteria which, when triggered, mean that the shopper will not be required to provide authentication. For example, if a merchant from Germany has set up a rule meaning that shoppers paying in EUR and are spending under €50, and is buying from within Germany, will not need to provide authentication, then a shopper which meets that criteria will not be required to authenticate their payment.

"3D Secure Turned On" is the default configuration of Dynamic 3D Secure.

Because the default setting of 3D Secure will be set to on, the liability of the payment lies with the cardholder's issuer. When the rule triggers and no authentication is required, the liability will shift to you.

If you are currently using 3D Secure Turned Off, and you wish to turn 3D Secure On, please talk to your Relationship Manager.

4.1 Benefits of using rules to turn off 3D Secure

Turning off 3D Secure for certain transactions can bring the following benefits:

- A more streamlined customer experience
- More authorised transactions
4.2 How it works

How it works

1. A shopper goes to your website and makes a payment.
2. When the payment is sent, your rule base is checked to see if the payment triggers one of your pre-determined rules.
   a. If a rule is not triggered, then the shopper will need to authenticate their payment.
   b. If the rule is triggered, then the shopper will not need to authenticate their payment.
3. The transaction is processed as usual.

4.3 Rules

Applying rules for 3D Secure Turned On works in the same way as applying rules for 3D Secure Turned Off. You can find out more about this in Setting up or changing rules on page 11.
5 Turn 3D Secure Off

When you choose to turn off 3D Secure, the default setting is "off". Every shopper that wishes to make a payment to the merchant will not be required to provide authentication.

You can choose criteria which, when triggered, mean that the shopper will be required to provide authentication. For example, if a merchant from the United Kingdom has set up a rule meaning that shoppers paying in GBP and is spending over £50 will need to provide authentication, then a shopper which meets that criteria will be required to authenticate their payment.

- When 3D Secure is switched off, the liability of the payment becomes yours. It is only when the shopper is authenticated does the liability shift to the cardholder’s issuer.

- Turning 3D Secure off will remove any existing rules you have previously set up for turning on 3D Secure.

- If you are currently using 3D Secure Turned On, and you wish to turn 3D Secure Off, please talk to your Relationship Manager.

By eliminating authentication on shopper journeys, Dynamic 3D Secure helps to streamline the payment process for your customers, which may result in more authorised transactions.

5.1 Benefits of using rules to turn on 3D Secure

Turning 3D Secure on for certain transactions can bring the following benefits:

- Fewer chargebacks
- Liability shift from yourself to the cardholder’s issuer
- Increased conversion rate
5.2 How it works

How it works

1. A shopper goes to your website and makes a payment.
2. When the payment is sent, your rule base is checked to see if the payment triggers one of your pre-determined rules.
   a. If the rule is triggered, then the shopper will be asked to authenticate their payment.
   b. If no rule is triggered, the shopper will not need to authenticate the transaction and 3D Secure is bypassed.
3. If the payment is authenticated, the transaction will be processed as usual.

*Payments in which the cardholder is not authenticated receive no liability shift.*

5.3 Rules

Applying rules for 3D Secure Turned Off works in the same way as applying rules for 3D Secure Turned On. You can find out more about this in Setting up or changing rules on page 11.
6 Override element

You can optionally include an override element in your XML order code on a transaction-by-transaction basis.

The override element specifies whether 3D Secure should take place. When you submit an order with the override element, any rules are ignored.

Use the `<dynamic3DS>` element to specify whether 3D Secure should take place. You can set the element’s attribute, `overrideAdvice`, to one of the following values:

<table>
<thead>
<tr>
<th>Attribute value</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>do3DS</td>
<td>Perform 3D Secure for this order. Ignore any configured rules.</td>
</tr>
<tr>
<td>no3DS</td>
<td>Do not perform 3D Secure for this order. Ignore any configured rules.</td>
</tr>
</tbody>
</table>

Table 3: Possible attribute values for the `<dynamic3DS>` element

You can also use the override element if you don’t have rules set up.

Using the override element could simplify your integration and reporting. If you currently use two accounts to control 3D Secure, you may be able to simplify your integration to a single account.

For example XML order code containing the `<dynamic3DS>` element, see Sample XML code with the override element on page 19.

6.1 Prerequisites and risk

Payments in which the cardholder is not authenticated receive no liability shift.

To use the override element, you must have Dynamic 3D Secure enabled for your account. If Dynamic 3D Secure is not enabled and you submit an order with the override element, the following error is generated:

```xml
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE paymentService PUBLIC "-//WorldPay//DTD WorldPay PaymentService v1//EN" "http://dtd.worldpay.com/paymentService_v1.dtd">
<paymentService version="1.4" merchantCode="DEMO">
  <reply>
    <error code="5">
      <![CDATA[3DS overrideAdvice attempted but 3DS override not enabled.]]>
    </error>
  </reply>
</paymentService>
```

Code example 1: An example payment response showing that 3DS cannot be overridden as it is not enabled
7 Viewing Dynamic 3D Secure information in the Merchant Interface

When a rule is triggered for a payment, you can view its criteria in the Merchant Interface (MI).

To view Dynamic 3D Secure information for a payment:

1. In the MI, click Payments and then click the Transaction ID to display detail about a specific payment.

   ![Payment Details](image)

   - If no rules are triggered for a payment, the Dynamic 3DS field is not displayed.

2. Under Payment Details, where it says Dynamic 3DS, click Show rule.

   A new tab will open and the criteria for the rule are displayed. The rule's unique ID number is also displayed.

   ![Dynamic 3DS Rule 1000349](image)

   - **Dynamic 3DS Rule 1000349**
     - **General**

     When you click Show rule, you will be able to see which rule was activated. For example, in the above figure, you can see that shoppers who are paying in Euros, and are spending over €10, must provide authentication.

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You can find out more about the rules you’re able to select by heading over to Rules processing on page 10.
Appendix A: Sample XML code with the override element

The `<dynamic3DS>` element specifies whether Dynamic 3D Secure should be carried out for the order.

The `<dynamic3DS>` element can contain the `overrideAdvice` attribute. To specify whether 3D Secure should take place, you can set the attribute to one of the following values:

<table>
<thead>
<tr>
<th>Attribute value</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>do3DS</td>
<td>Perform 3D Secure for this order. Ignore any configured rules.</td>
</tr>
<tr>
<td>no3DS</td>
<td>Do not perform 3D Secure for this order. Ignore any configured rules.</td>
</tr>
</tbody>
</table>

*Table 4: Possible attribute values for the `<dynamic3DS>` element*
XML Direct sample order

The following XML code shows the `<dynamic3DS>` element in an XML order for the XML Direct integration:

```xml
<?xml version="1.0"?>
<!DOCTYPE paymentService PUBLIC "-//WorldPay//DTD WorldPay PaymentService v1//EN" "http://dtd.worldpay.com/paymentService_v1.dtd">
<paymentService version="1.4" merchantCode="MYMERCHANT">
  <submit>
    <order orderCode="T0211010">
      <description>Order description</description>
      <amount value="5000" currencyCode="EUR" exponent="2"/>
      <orderContent><![CDATA[ orderContent]]></orderContent>
      <paymentDetails>
        <MAESTRO-SSL>
          <cardNumber>6759xxxxxxxx8453</cardNumber>
          <expiryDate>
            <date month="06" year="2019"/>
          </expiryDate>
          <cardHolderName>J. Shopper</cardHolderName>
          <startDate>
            <date month="06" year="2010"/>
          </startDate>
          <issueNumber>0</issueNumber>
          <cvc>123</cvc>
          <address>
            <firstName>John</firstName>
            <lastName>Shopper</lastName>
            <address1>Shopperstreet</address1>
            <address2>Shopperaddress2</address2>
            <address3>Shopperaddress3</address3>
            <postalCode>1234</postalCode>
            <city>Shoppercity</city>
            <countryCode>NL</countryCode>
          </address>
        </MAESTRO-SSL>
        <session shopperIPAddress="127.0.0.1" id="ssn505847750"/>
      </paymentDetails>
      <shopper>
        <shopperEmailAddress>jshopper@example.com</shopperEmailAddress>
        <browser>
          <acceptHeader>text/html</acceptHeader>
          <userAgentHeader>Mozilla/5.0 ...</userAgentHeader>
        </browser>
      </shopper>
      <dynamic3DS overrideAdvice="do3DS"/>
    </order>
  </submit>
</paymentService>
```

*Code example 2: An example XML Direct order with the `<dynamic3DS>` element*
XML Redirect sample order

The following XML code shows the `<dynamic3DS>` element in an XML order for the XML Redirect integration:

```xml
<?xml version="1.0"?><!DOCTYPE paymentService PUBLIC "-//WorldPay//DTD WorldPay PaymentService v1//EN" "http://dtd.worldpay.com/paymentService_v1.dtd">
<paymentService version="1.4" merchantCode="MYMERCHANT">
  <submit>
    <order orderCode="T0211010">
      <description>Order description</description>
      <amount value="5000" currencyCode="EUR" exponent="2"/>
      <orderContent>
        <![CDATA[]]>
      </orderContent>
      <paymentMethodMask>
        <include code="ALL"/>
      </paymentMethodMask>
      <shopper>
        <shopperEmailAddress>jshopper@example.com</shopperEmailAddress>
      </shopper>
      <billingAddress>
        <address>
          <firstName>John</firstName>
          <lastName>Shopper</lastName>
          <address1>Shopperstreet</address1>
          <address2>Shopperaddress2</address2>
          <address3>Shopperaddress3</address3>
          <postalCode>1234</postalCode>
          <city>Shoppercity</city>
          <countryCode>NL</countryCode>
        </address>
      </billingAddress>
    </order>
  </submit>
</paymentService>
```

Code example 3: An example XML Redirect order with the `<dynamic3DS>` element
To find out more, get in touch with your Relationship Manager or:

- Email corporatesupport@worldpay.com

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